



Laos People's Democratic Republic
Peace Independence Democracy Unity and Prosperity

Environment Protection Fund
LENS2 Sub-project Application

General Instructions:

- Applications can be submitted in Lao but need to be translated into English at stage of submission to WB for non-objection. Translations will be under SDA's responsibility and are funded as part of Sub-project's budget.
- Eligibility criteria are: (a) supports a GOL policy, strategy and/or an official plan; (b) contributes to at least one outcome indicator and at least one intermediate outcome indicator (see PAW/LENS2 results framework); (c) *for protected area and wildlife related sub-projects only*: contributes to a regional or global outcome such as cross-border cooperation, knowledge transfer or prevention of illegal wildlife trade; (d) aligns with project's geographical scope (central level and target provinces (Bolikhamxay, Khammouane, Houaphan, Xiengkhouang, LuangPrabang (PAW), Savannakhet, Vientiane and Xaysomboun (all LENS2)); (e) fits into one of the eligible EPF funding windows (PICE, CBI (PAW), WRM (all LENS2)); and (f) excludes activities in negative check-list in project implementation manual.
- Sub-projects will be approved for the duration of the proposal but are subject to annual sub-grant agreements, which will be signed, based on previous years' performance. The defined annual performance triggers relate to input (use of funds and governance) and outputs and will be defined in the AWPB.
- Only one sub-project at a time per central department, or per provincial office division, or per faculty or per autonomous institution or partnership is permitted.

EPFO Sub-project number:

<p>1. Sub-project delivery agency (SDA) (name/address)</p>	<p>Pollution Control Department (PCD) Ministry of Natural Resources and Environment (MoNRE) Lao PDR, P.O.Box 7864. Nahaidiew Village, Chanthaboury District, Vientiane Capital City, Office Building No 100 of MONRE, 3rd floor Tel: 856 21 243701-2, Fax: 856 21 243700 Email: phonvisai@gmail.com</p>
<p>2. SDA focal point (name/function/contact details)</p>	<p>Phengkhamla PHONVISAI, Ph. D Deputy Director General Tel: (856-21) 243701-2 Fax: (856-21) 243 700</p> <p>Mr. Keosangkhom PHOMMASENG Director of Division Tel: (856-21) 243701-2 Fax: (856-21) 243 700</p> <p>Ms. Thidalath VONGXAYA Technical Staff Tel: (856-21) 243701 Fax: (856-21) 243 700</p>

3. Geographic scope <i>(can be more than one option)</i>	<input type="checkbox"/> International level <input checked="" type="checkbox"/> Central/national level <input checked="" type="checkbox"/> Provincial/district level. Please indicate 3 target provinces (Bolikhamxay, Khammouane and Savannakhet) <input type="checkbox"/> Protected area. Please indicate (NPA, protection forest, conservation forest and name)
4. Sub-project title	PCD Capacity Building for Pollution Control, Waste and Hazardous Chemicals Management.
5. Amount requested (US\$)	\$ 699,773 including 10% contingency
6. EPF's eligible funding window <i>(please check only one window)</i>	<input checked="" type="checkbox"/> Policy Implementation and Capacity Enhancement (PICE) <input type="checkbox"/> Community Biodiversity Investment (CBI) please check if CEF applies ¹
7. LENS2 Project development objective²	To help strengthen selected environmental protection management systems, specifically for protected areas conservation, enforcement of wildlife laws, and environmental assessment management.
8. Sub-project related sectoral and institutional context, challenges and priorities <i>(Describe role of SDA, current capacity and activities related to PA/wildlife/env. and social safeguards, challenges and priority needs and approach proposed to address priority needs/gaps).</i>	<p>1. Environmental Quality Management System (EQMS) in Lao PDR</p> <p><i>Overview:</i></p> <p>Lao PDR is a land-locked country with low population (about 6.8 million in 2014) and is surrounded by Thailand, Vietnam, Cambodia, and China. About 75% of the country area (236,800 km²) is mountainous while the remaining 25% are flat land running along the Mekong river. Rapid socioeconomic development in the country during the past 10 years has resulted in degradation of environmental quality and increasing in waste generation and pollution (air, noise, and water) and it is necessary for the country to take active actions.</p> <p>In December 2012, the National Assembly approved the revised Environmental Protection Law (EPL) describing measures for environmental protection and management in Lao PDR comprising (a) measures on environmental prevention; (b) measures on pollution control; (c) measures on toxic chemical control and waste disposal; (d) environmental certification and permission; and (e) environmental promotion and participation; Implementation of these measures is the responsibility of key agencies of the Ministry of Natural Resources and Environment (MONRE) such as the Pollution Control Department (PCD), the Department of Environmental Promotion (DEQP), the Department of Environmental and Social Impact Assessment (DESIA), and the Natural Resources and Environmental Institute (NREI) in close</p>

¹ Please follow the procedures outlined in the CEF document and ensure that details related to sub-project CEF implementation including implementation arrangements, activities, indicators and budget are correctly included in the related sub-project application sections (RF, budget, activities, M&E).

² This is the proposed LENS2 PDO. Until LENS2 project becomes effective, sub-projects for LENS2 will not be processed for approval.

consultation with sector agencies, the province, and local authorities. MONRE and the province are adjusting their mandates and responsibilities to be in line with the Party and the Government policy to delegate the responsibilities to the province and local authorities (“Sam Sang” policy).

2. Pollution control and waste management

Clarity on legal and institutional frameworks:

In Lao PDR, pollution control and waste management is recently developed so clarity on legal and institutional arrangement remains a problem. The EPL of 1999 provided some basic principles for pollution control and waste management however the responsibility for implementation was delegated to sector agencies and specific requirements/regulations were developed by the sector agencies in the past. There is a law on national hygiene, health care, and protection (2001) defining responsibilities of the Ministry of Public Health (MOPH) for waste management and a decree on waste management from health care facilities (No 1706/MOH, 2/7/2004) however lack of resources has limited their effective implementation. The Ministry of Public Works and Transport (MPWT) is responsible for management of wastes from urban areas while the Ministry of Industry and Commerce (MOIC) is responsible for pollution and waste management from industry and the provinces and Vientiane capital are responsible for waste collection and disposal in their responsible areas. There is also a decree on disposal site management (No 520/TCPC, dated 23 Feb 2007) regulating site selection and design of disposal sites and a draft decree on municipal solid waste which prepared in 2009 as well as a technical guideline on solid waste management³ describing the policy and technical requirements for all types the solid wastes, including hazardous and medical waste. Other concerned line agencies include the Ministry of Energy and Mines (MEM) and the Ministry of Agriculture and Forestry (MAF).

The EPL (2012) however assigns MONRE to take the lead in the prevention, management, and control of pollution and wastes in close consultation of the sector agencies. Part III Chapter 2 Article 27 requires the setting up of a National Environmental Quality Standard (NES) covering air, noise, water, and soil while Chapter 3 Article 32 requires the setting up of a National Pollution Control Standards (NPCS) identifying concentration of pollutants that will be allowed for discharging into air, soil, and water courses. Articles 33-35 defines right of activity owners to discharge pollutants within the standards and requires them to set up monitoring system on environmental quality and pollution control under their responsibility, to coordinate with concerned agencies, and to take actions as required by laws/regulations including preparation of management plan and implementation of pollution control measures. Chapter 3 (Articles 36-40) defines type of wastes and ways to handle toxic chemicals while Chapter 4 (Article 42) defines the need for

³ *Technical guidelines on solid waste management in Lao PDR, Vientiane Lao PDR 2010, prepared by Public Works and Transport Institute (PTI), MPWT, Department of Environment, Water Resources and Environment Administration. With support from SEA-UEMA Project (AIT-CIDA) and Public Works and Transport.*

issuance of emission permit for producers and businesses such as industry, mining, agriculture, forest, handicrafts, services or other activities which will be defined through specific regulations by the natural resources and environmental agencies after consultation with concerned agencies.

Limited data and information: Pollution control and waste management is a new subject in Lao PDR and information on pollution/waste generation and management has been limited. At present it is evidence that waste generation, air, and noise pollution has been increased significantly in Vientiane Capital and urban centers of the country. Key pollution issues can be highlighted as follows:

- **Air/noise quality:** Given rapid increase in industries and other socio-economic development and traffic in Vientiane capital, Bolikhamxay and Khammouane provinces, and other large cities especially in LuangPhabang, Savannaket and Champasack it is expected that air pollutants such as Total Particulate Matter (TPM), Small Particulate Matter (PM₁₀), Sulphur dioxide (SO₂), and Nitrogen dioxide (NO₂) in the atmosphere, which were mainly caused by vehicles and industries will be increased however due to the lack of equipment and measuring capacity, background levels of air and noise pollutants in Lao PDR have not been established.
- **Waters quality and waste dumping:** Water quality is considered good in general, although deterioration is observed in the rivers and tributaries in urban area because of increasing untreated or insufficiently treated wastewater and wastes. Mining activities and hydropower generation is the major sources of water pollution especially in terms of sedimentation, organic degradation, and toxic pollutants. Water runoff from agricultural activities is also potential sources of high nutrients and of toxic chemicals originated from fertilizer and pesticide use. Litter, dust and dirt, oil and grease, particles of rubber compounds from tires, particles of metal, glass and plastic are often found illegal dumped into the water, and lead is the main contaminant in many areas. Water resources in urban area are contaminated due to sewerage draining of both small industrial discharges and septic tank seepage without treatment. Routine water quality monitoring is lacking and only some specific data for specific areas are available.
- **Solid wastes generation** from urban areas in Lao PDR is on the rise, and has already damaged to the surface and groundwater quality. This is due to urbanization and population growth, poor collection, and mainly inadequate disposal facilities. Limited data collection suggested that most of the community solid waste is combined with different type of wastes similar with other developing countries. Waste in Lao PDR consists of about 30% organic material, 30% plastic, 15% paper, and 25% glass, cans and other metals and a large portion of food waste is used for animal feed. The annual waste generation in 2004 was 270 000 tons and domestic waste accounts for most of the waste generated. An average urban solid waste

production in Lao PDR is about 0.63 kilogram (kg) per capita per day, Vientiane and the four secondary towns account for 0.65–0.8 kg per capita per day. The recycle rate of the industrial waste has been increased, especially in industrial groups of glass, paper, plastic, steel, aluminums, and rubber tires, including food industries, electronic appliances, consumer goods, cosmetics and drugs. Hazardous and toxic wastes such as batteries, old paint cans, aerosols and other refuse are also mixed with this waste. There is no systematic data collection on waste generation and disposal that could be used to facilitate effective waste management in Lao PDR.

- ***The chemical hazards*** of concern include heavy metals such as mercury, lead, cadmium, arsenic, chromium, copper, zinc and Persistent Organic Pollutants (POPs) such as Dioxin and furans, biphenyl polychlorinated (PCBs), pesticides and herbicides which are now banned worldwide. Heavy metal contamination resulted primarily from industrial source, which have increased significantly along with the country economic development. There is particular concern regarding lead contamination from metallurgy industry. Releasing of mercury, cyanide, copper, cadmium from mining activities is another concern of the pollution. Downstream water quality of the rivers has also been contaminated by mining activities. Therefore, monitoring is quite important to avoid health impact in time. However, no evidence of prohibited insecticides and herbicides are being imported to Lao PDR from neighboring countries, the used pesticide packages and barrels thrown away in the environment was another source of chemical contamination in Lao PDR. PCBs was also found in old transformers in Lao PDR, but those PCB-contained transformers are no longer installed for new transformers. However, lack of basic information about the extent of problems in the country would cause difficulty to prepare the chemical management plan.

(3) Role and Responsibility of PCD:

Pollution Control Department (PCD) is a new agency established by MONRE⁴ in 2012 and comprise 5 divisions: (1) Division of Planning and Administration (DPA); (2) Division of Legislation and Information (DLI); (3) Division of Pollution Control (DPC); (4) Division of Pollution Management (DPM); (5) Division of Technical Promotion (DTP). Main responsibility of PCD is to control, prevent, reduce and eliminate pollution, including conservation and rehabilitation of the environment for the benefit of the country. PCD is responsible for making recommendations on establishment of the national environmental quality standards and emission/effluent standards, and setting up the criteria, methods and conditions for pollution management of solid waste, hazardous substances, water quality, air quality, and noise and vibration levels. Key specific responsibilities include: (1) Developing the legislation for pollution control and waste management under EPL, 2012, (2) Increasing capacity of PCD and the Provincial Offices of Natural Resources and Environment (PONREs) who is responsible for pollution control at the provincial level; (3) Developing pollution inventory and

⁴MONRE Agreement No 3122/MONRE, date 28 May 2012.

database information; (4) Developing the State of Pollution Report (to inform the public of the current status of pollution problems and impacts, including the annual pollution management in Lao PDR in order to raise public awareness); and (5) Emergency response (Draft of PCD's Mandate, 2015). Current staffing is 40 comprising 28 technical officials, 12 supporting officials, and 7 technical junior trainees.

On-going capacity building. PCD is a new agency with limited technical assistance and financial supports from development partners. During 2013-2015, there was a small project on solid waste management with JICA support (as part of a broader objective), a small project on capacity with ADB support (as part of GMS project), and some activities with Ministry of Industry and Commerce (MOIC) with EMSP support and all the activities have been completed in 2015. As part of the ADB project, a capacity assessment was conducted and key conclusions are highlighted as follows:

- *Ability to perform core functions:* Generally, there is a wide gap between the functions that PCD is able to do with current staff and budget, and what PCD should do as the national pollution control agency. PCD core functions were defined under 11 categories: (a) national database of environmental quality; (b) law, regulations, and standard; (c) pollution prevention and assessment capacity; (d) enforcement capacity; (e) policy and planning capacity; (f) outreach/training capacity; (g) emergency response; (h) monitoring and reporting; (i) international liaison; (j) managing public complaint; and (k) finance and administration. To perform these functions recruitment of experts and qualified staff, especially those related to toxic and hazardous waste will be necessary. Only the last four functions could be handled within the current staff capacity but with some additional training. More budget support for PCD will be necessary.
- It will be difficult for MONRE and PCD to build its capacity according to their mandate given the lack of budget and the nature of donor-driven projects which are normally designed for different objectives. Pollution inspection and control (as required by the EPL) will require government budget to ensure good governance of the process and results. There are also lack of clarity between PCD and other agencies within MONRE and the needs for PCD to effectively coordinate with other sector agencies, provide policy and technical guidance and capacity building to the provinces, and communicate/reach out key stakeholders and general public.

(4) Issues and challenges

(4.1) Limited capacity and effective coordination among key agencies:

As discussed above, legal and institutional arrangements and budget support are the fundamental issues and challenge for the pollution control and waste management in Lao PDR. There are many agencies involved in pollution control and waste management and all of them have limited human and financial resources. Within MONRE, the Department of

Environment and Social Impact Assessment (DESIA) is responsible for management of EIA/IEE process however the assessment and monitoring measures will involve water, air, noise, and vibration according to the national pollution control standards which will involve PCD and other agencies. The Department of Water Resources (DWR) is responsible for water resources management and the revised water law requires specific measure for protection of water resources area from pollution while the Department of Risk Disaster Management and Climate Change (DDMCC) will involve prevention and emergency response including those related to toxic substances and chemical spillages. The Natural Resources and Environment Research Institute (NREI) is responsible for research and development and analysis of water, air, noise, vibration, and waste management. Other line agencies are involved in pollution control related to water, air, noise, vibration, and toxic substances include MEM, MOIC, MAF, MOPH, and MPWT while the provinces and Vientiane capital is responsible for management of pollution within their administrative responsibility.

Within MONRE, effort is being made to clarify responsibility of key agencies with respect to policy, plan, and regulations regarding to natural resources and environmental management. For pollution control, it appears⁵ that PCD will be responsible for establishing regulations related to (i) national environmental quality standards and pollution control standards including pollution permit and (ii) management of toxic and hazardous wastes in close consultation with other MONRE agencies and sector agencies and provinces. In light of rapid development in the country and limited human and financial resources, it is therefore important to address the legal and institutional issues and facilitate effective coordination among agencies and provinces.

(4.2) Water pollution control in priority area:

Although most water quality in Lao PDR is considered good in general, protection of water quality for pipe water supply and human consumption is considered priority from pollution control point of view. Efforts are being made by agencies such as DWR (through the revision of the water law) and NREI through the water quality monitoring in area considered important for source of water supply for Vientiane capital. There are water quality issues in Nam Ngum reservoir with respect to fishing farms and water release from upstream dams. It is important for PCD to work closely with DWR and NERI to provide specific guidelines and/or standard to ensure effective management of water quality especially in the areas assigned to be used as source for water supply.

(4.3) Solid waste management:

Due to rapid development in the country, solid waste management has become a challenge in Vientiane capital and the major cities and there are also guidelines on solid waste management and other guidelines

⁵ MONRE internal order (draft 28 December 2013)

related to 3Rs in Lao PDR⁶. A recent study conducted with JICA support suggested that it is necessary to establish rules to support community and private sector involvement, to seriously promote 3Rs (*Reduce, Reuse, and Recycle*), to develop an integrated waste management strategy which would allow the government to introduce preventive measures targeting all producers of waste, including waste minimization, waste reuse, and recycling. Taking the advantage of low population and strong leadership of local authority, enhancing effectiveness of waste reduction at household/business level can be more effective if proper regulations and incentives are put in place with public education and awareness raising campaign. Rapid increase in waste generation in Vientiane Capital and the four cities indicates priority for actions.

(4.4) Waste management and pollution control from SMEs

As highlighted in the ADB study that rapid economic development and diversification in Lao PDR resulted in significant increase in contribution of the industrial sector to the country's Gross Domestic Product from 12% to 25% during the past decade and that while the expansion of industries (such as pulp and paper mills, cement factories, food processing and garment manufacturing) are providing jobs and economic benefits, there are increasing concerns over industrial pollution, particularly impacting on water and land quality. Technologies used in Lao PDR's industrial sector are often old and poorly maintained and compliance with regulations is not well enforced. Small and medium enterprises (SMEs) investment from local entrepreneurs and foreigners is also important for Lao economy and many of them are facing difficulty in complying with law and legislation due to the lack of capital as well as the lack of knowledge on environmental management and waste treatment technology. ADB is providing support to PCD on establishing a quality baseline and monitoring information, including identifying the most problematic industry. However additional assistance to SMEs, especially the local ones, to address waste management and control pollution at a reasonable cost will be necessary to prevent future pollution and ensure compliance with government regulations and this is a big challenge. Building capacity of PCD, NREI, MOIC, and the provinces to provide technical guidance to SMEs on pollution control and waste management is therefore important for ensuring sustainable development in Lao PDR.

(5) Priorities and needs

Given the above, priority and needs for technical assistance with LENS2 support will include, but not limited to, the followings:

- ***Development of priority regulations and capacity building.*** Priority activities will be given to establish the Vision to 2030 and 10 Years Strategy (2016-205) and 5 Years Action Plan (2016-

⁶IGES Working Paper No. SCP-2012-01; A guide for improving municipal solid waste management and promoting urban organic waste utilization in Lao PDR; Authors Janya Sang-Arun, Institute for Global Environmental Strategies (IGES) KorakanhPasomsouk, National University of Laos (NUOL) Reviewers Magnus Bengtsson, Institute for Global Environmental Strategies (IGES) NirmalaMenikpura, Institute for Global Environmental Strategies (IGES)

2020) on National Pollution Control, the Pollution Control Regulation, the Toxic Substance and Waste Disposal Regulations, the National Environmental Quality Standards, and the National Pollution Control Standards as required by the EPL (2012). The regulations will also define roles and responsibility of the agencies and provinces while technical assistance and budget support will be provided for training and /or consultation workshops. At present, PCD is drafting these regulations/standards and technical assistance and financial support will be necessary to complete the consultation process of these regulations before the drafts can be finalized and approved. Given rapid development in the country including increasing risks due to transportation of toxic substance and wastes, priority will be given to establish regulations related to pollution permits which will be applied to all critical pollution sources (industry, hydropower, mining, and urban development). Consultation on these regulations/guidelines will also be made in the pilot provinces (likely to be BKK, KM, SVK) including training of provinces and local staff.

- ***Development and operation of pollution sources inventory and a centralized pollution control database.*** This is necessary to establish a reliable data regarding to pollution sources and facilitate effective planning and management of pollution and wastes including preparation of pollution control status report and development of a national pollution prevention and mitigation strategy until 2025 and mission 2030.

(6) Subproject approach

Addressing the current weaknesses on policy, legal, and institutional aspects requires close coordination and consultation among agencies as well as technical inputs and suggestions from national and international experts who has hand-on experience in dealing with similar issues and is doable in the context of Lao PDR where human and financial resources are limited. PCD will take the lead in facilitating the discussion and consultation so that specific agreement could be reached on how to ensure effective coordination among agencies and how to address priority issues related to pollution control and waste management. It is expected that a technical working group will be established (as a coordination committee) to assist PCD in facilitating the discussion process while an action plan will be prepared to identify priority activities and/or specific technical studies that will be carried out to support the consultation process. Assistance from short-term consultants will be required for training on issues identified during the discussion as well as to assist during the consultation meetings and processes. Given that pollution control and management regulations are important for ensuring effective management of environmental prevention measures (including the EIA and IEE process) as well as mitigation and management of wastes, toxic substances, and pollution, priority for PCD capacity

	<p>building activities will be implemented in close consultation with DESIA, NREI, and PCD subprojects.</p> <p>PCD subproject activities will be implemented through the following 3 components:</p> <ul style="list-style-type: none"> • Component (1) Strengthening for PCD to develop and revise the legislations on pollution control, hazardous chemical, and wastes disposal. This component aims to develop and improve pollution prevention, control and hazardous waste management legislation to ensure effective management of pollution control and wastes. PCD has developed an initial draft of the following regulations/standards: regulations on prevention and control of air, noise, water and soil pollution; regulations on control of the collection, source separation, storage, transportation, processing, treatment, recovery and disposal of hazardous waste (include E-waste); and regulations on pollution control standards for air and water which will involve upgrading of some parameters of existing ambient and emission/effluent standards describing a minimum permissible concentration of a potentially hazardous chemicals. • Component (2) Capacity building for PCD and 3 priority provinces enforcement of the pollution prevention, control and hazardous waste management Regulation and develop the pollution inventory and annual report. This component aims to build capacity of PCD, selected line agencies, and the pilot provinces on source inventory, monitoring, inspection, and reporting (MIR) including setting up a Training the Trainer (TOT) program on MIR. PCD will take the lead in close consultation with line agencies (MIOC, MEM, etc.) and in cooperation with the selected provinces. • Component (3) Subproject administration and monitoring. This component aims to ensure timely implementation and management of PCD subproject activities including M&E and submission of progress report (semester and annual), AWPB report, and clearance of subproject expenses.
<p>9. Sub-project objective (only one sentence)</p>	<p>To develop PCD capacity to establish regulations and standards critical for forging effective control of pollution and management of wastes and toxic substances and to build inspection and enforcement capacity in 3 pilot provinces.</p>
<p>10. GoL Policy/Plan/Strategy supported by Sub-project(including provincial if applicable)</p>	<p>The Environmental Protection Law (2012) stipulates the needs for establishment of rules and regulations regarding pollution control, toxic chemical and waste disposal including the issuance of Pollution Permit and the key articles can be found in the Part III Chapter 2 (Pollution Control), Chapter 3 (Toxic Chemicals and Wastes Disposal), and Chapter 4 (articles 42: Permission on Pollutant Emission).</p> <p>In late 2014, MONRE has established the first Five Year Action Plan 2016-2020 identifying priority and targets for natural resources and environment. With respect to environmental quality, the Action Plan</p>

	<p>identified priority on environmental quality promotion (to be implemented by DEQP), pollution control (to be implemented by PCD), and environmental management and monitoring of investment projects and activities (to be implemented by DESIA). On pollution control, key milestones are (1) complete the development of pollution control legislations; (2) development of mechanisms for pollution control and management of solid waste, hazardous materials, and wastewater in the 6 targeted cities located along Mekong rivers; (3) reduction of the amount of solid waste transported to landfill by promoting the use of 4Rs (Reduce, Reuse, Recycle, and Recovery) in those 6 targeted provinces; and (4) development of centralized pollution database covering solid waste, hazardous material, soil pollution, air and noise emission and wastewater) in the 6 targeted Cities located along Mekong rivers.</p> <p>However, given limited budget, PCD priority for building capacity of the pilot provinces will focus on the 3 LENS2 project provinces including Bolikhamxay (BKK), Khammouane (KM), and Savannakhet (SVK),. Nonetheless these will have to be consulted with the provinces and confirmed during the implementation of the PCD subproject.</p>
<p>11. Sub-project Regional or global outcomes <i>(for protected area and wildlife related sub-projects only: e.g. cross border cooperation, knowledge transfer, prevention of regional illegal wildlife trade)</i></p>	<p>PCD will work closely with other key agencies and share pollution prevention and control and waste management with regional and international cooperation such as UNEP, SAICM, ASEAN, Regional Enforcement Network (REN) on hazardous chemical and waste management, Water Environment Partnership Asia (WEPA), GMS, MRC, and all Conventions that PCD acts as the focal point i.e. the Stockholm Convention (ratified on 28 June 2006); the Basel Convention, for controlling trans-boundary movements of hazardous waste and their disposal (ratified on 9 October 2010); the Rotterdam Convention for protecting human health and the environment by promoting shared responsibility and cooperative efforts in the international trade of certain hazardous chemicals (ratified 9 October 2010), and the Minamata Convention on Mercury for protection of human health and the environment from the adverse effects of mercury).</p>
<p>12. Sub-project Outcome Indicators <i>Select and list the related outcome and intermediary outcome indicators from the PAW/LENS2 Results Framework and describe additional sub-project specific outcome indicators.</i> <i>Outcome/impact is the longer-term benefit of particular goods or services to a target group.</i></p>	<p>LENS2 PDO and Intermediate indicators: In line with the LENS2 Results Framework, PCD subproject outcome indicator will support the PDO indicator #3 (Aggregate index of functional or educative capacity of selected public institutions (annual)) and the Intermediate Outcome indicator #1.1 (Direct project beneficiary (of which women) as measured by additional staff of public and partner institutions having completed basic adaptive training (short courses) (cumulative)) as follows:</p> <ul style="list-style-type: none"> • Increase in a score of functional capacity of PCD (annual)(also LENS2 outcome indicator) • Regulation of adoption by MONRE of MN of: (a) Pollution Prevention and Control Regulation (2 pt), (b) Waste and Hazardous Chemical Management Regulation (2 pts); (c) National Environmental Standard Regulation (2 pts) (e) Vision to 2030 and 10 Years Strategy (2016-2025) and 5 Years Action Plan (2016-2020) on National Pollution Control (2 pts)(Cumulative)

	<ul style="list-style-type: none"> • Direct project beneficiaries (of which 20 % of women) as measured by additional staff of PCD, NREI, DONRE having completed basic adaptive training (short course) (cumulative) (also LENS2 intermediary outcome indicator). • PCD and DONREs monitoring reports on inspection and monitoring environmental quality and National pollution control Status Report (cumulative)
<p>13. Sub-project main outputs(Goods or services provided by the sub-project's intervention (supply-driven) e.g. x staff trained; guidelines on x developed)</p>	<p>Under Component 1 (<i>Strengthening PCD capacity to develop and improve legislations on pollution control, hazardous chemicals, and wastes disposal</i>) key outputs will include:</p> <ul style="list-style-type: none"> • Output 1.1: Submission to MONRE of the Vision to 2030 and 10 Years Strategy (2016-205) and 5 Years Action Plan (2016-2020) on National Pollution Control for approval. • Output 1.2: Submission to MONRE of Pollution Control Regulation for approval. • Output 1.3: Submission to MONRE of Toxic Substance and Waste Disposal Regulation for approval. • Output 1.4: Submission to MONRE of the (revised) National Environmental Quality Standards (air, noise, water, soil) and Pollution Control Standard for point and non-point sources for approval. <p>Under Component 2 (<i>Capacity building for PCD and 3 priority provinces enforcement of the pollution prevention, control and hazardous waste management Regulation and develop the pollution inventory and annual report</i>), key outputs will include:</p> <ul style="list-style-type: none"> • Output 2.1 A Number of staffs from PCD at advanced level have been trained in relevant areas of pollution control and prevention. • Output 2.2 A number of staff (PCD, agencies, PONREs) trained on pollution sources inventory, and database management and information sharing. • Output 2.3 Completed procurement of vehicles and equipment and data collection of pollution source inventory in the 3 pilot provinces including analysis and input to the database. • Output 2.4 Completed procurement, installation, and operation of the centralized database on pollution sources and production of annual 2 reports (at least 1 in 2018 and 1 in 2019) <p>Under Component 3 (<i>Subproject administration and monitoring</i>), key outputs will include:</p> <ul style="list-style-type: none"> • Output 3.1 Effective coordination of subproject activities, timely procurement, proper record keeping, and forging timely implementation of the activities in line with PIM of LENS2 and the agreement described in Section 26 of this proposal; • Output 3.2 Timely submission of subproject progress reports, annual progress report, and AWPB for each year during the subproject implementation; and timely submission of subproject completion report not later than 1 month after completion of the activities;

	<ul style="list-style-type: none"> • Output 3.3 Deliverable are completed as propose in the AWPB each year.
<p>14. Sub-project Components and Activities: <i>List the components and main activities to produce outputs above. Do not use more than 5 components. Details will be in Annual Work Plan and Budget (AWPB) annex attached.</i></p>	
<i>Component</i>	<i>Main Activities</i>
<p>Component 1: Strengthening PCD capacity to develop and improve legislations on control of pollution, toxic chemicals, and wastes disposal (\$141,950)</p>	<p>This component aims to build PCD capacity in establishing priority regulations necessary for forging effective control of pollution and management of wastes and toxic substances including facilitate cooperation with sector agencies and provide training to PCD staff, sector agencies, and/or provinces on priority subjects. To facilitate decision making a Pollution Control Management Working Group (PCMWG) has recently been established and it is chaired by a MONRE deputy minister. To facilitate technical discussion and agreement on the draft regulation and/or standards (ambient and emission) to be proposed by PCD, a number of technical working group (TWG) to be chaired by PCD and comprise key agencies (including NREI, DEQP, DWR, MOIC, MPWT, MOIC, MAF, MOH, MOST, MOPS, MOJ, PMO, and selected provinces/city) and they will meet quarterly. Assistance from pollution control experts (national, regional, and/or international) will be need. It is expected that a series of meetings and consultation workshops will be conducted though out the processes. Key tasks and activities are as follows: Task 1.1: Development of the Vision to 2030 and 10 Years Strategy (2016-205) and 5 Years Action Plan (2016-2020) on National Pollution Control. Key activities will be as follows:</p> <ul style="list-style-type: none"> • Activity 1.1.1 PCD prepares the first draft of the Vision to 2030 and 10 Years Strategy (2016-205) and 5Years Action Plan (2016-2020) on National Pollution Control and a draft implementation action plan describing roles and responsibility of key agencies/provinces during the implementation of the regulation including undertaking a series of technical meetings with MONRE and sector agencies to discuss and agreed on the technical issues and the draft implementation action plan. • Activity 1.1.2 Submit the first draft of the Vision to 2030 and 10 Years Strategy (2016-205) and 5Years Action Plan (2016-2020) on National Pollution Control and the draft action plan to the Technical Working Group (TWG) comprising representatives from sector agencies, the provinces and Vientiane city and the PCMWG as appropriate, including undertaking at least 1 public consultation in Vientiane on the first draft. • Activity 1.1.3 Finalize the draft of the Vision to 2030 and 10 Years Strategy (2016-205) and 5Years Action Plan (2016-2020) on National Pollution Control and the implementation action plan through a series of technical meetings and conduct at least 1 public consultation on the final draft before submitted to MONRE for approval. • Activity 1.1.4 Submit the final draft to MONRE for approval.

	<p>Task 1.2: Development of Pollution Control Regulation (PCR). This task aims to prevent and control air, noise, water, and soil pollution as stipulated in the Environmental Protection Law Part III Chapter 2 Articles 29-35. PCD will take the lead and prepare the first draft and key activities will be implemented through consultation process similar to that described in Task 1.1 above.</p> <p>Task 1.3 Preparation and submission of the Waste and Hazardous Chemical Management Regulation (WHCMR). This task aims to prevent and control toxic substance and waste disposal as stipulated in the Environmental Protection Law Part III Chapter 3 Articles 36-40. PCD will take the lead and prepare the first draft and key activities will be implemented through consultation process similar to that described in Task 1.1 above.</p> <p>Task 1.4 Preparation and submission of the revised Environmental Quality Standards and the Pollution Control Standards. This task aims to ensure effective management of regulations as stipulated in the Environmental Protection Law Part III Chapters 2 and 3 Articles 27 and 32. The current standards will be reviewed in close consultation with sector agencies and the provinces. PCD will take the lead and prepare the first draft and key activities will be implemented through consultation process similar to that described in Task 1.1 above.</p>
<p>Component 2: Capacity building of PCD and the selected provinces on pollution source inventory, monitoring, and inspection. (\$421,608)</p>	<p>This component aims to build capacity of PCD, selected line agencies, and the pilot provinces on source inventory, monitoring, inspection, and reporting (MIR) including setting up a Training the Trainer (TOT) program on MIR. PCD will take the lead in close consultation with line agencies (MIOC, MEM, etc.) and in cooperation with the selected provinces. The component will support pilot activities for PCD and the pilot provinces (3 provinces) to conduct a pollution source inventory to be included in the centralized pollution source inventory database to be established at PCD. The activities will strengthen PCD capacity to control/manage pollution as well as strengthen effectiveness of the ESIA/IEE processes. It is assume that the provinces (PONREs/DONREs) will also have their budget for undertaking the local training, equipment, and operating cost for field activities. Priority provinces are expected to be Bolikhamxay, Khammouane, and Savannakhet, however, this will be confirmed after consultation with the provinces. Key Tasks/activities are as follows:</p> <p>Task 2.1: Training key staffs of PCD at advanced level in relevant areas of pollution control and prevention. Key activities are as follows:</p> <ul style="list-style-type: none"> • Activity 2.1.1: Conduct training program for PCD staff enforcement of the pollution prevention, control and hazardous waste management Regulation. • Activity 2.1.2: Study visit PCD within MONRE of Thailand. • Activity 2.1.3: Study visit PCD within MONRE of Vietnam • Activity 2.1.4: Inspection, rehabilitate and remedy damages caused by pollution in the contaminated area and environmental damage in case of emergency respond.

- **Activity 2.1.5:** Meeting, Seminar and Workshop related to pollution prevention and control and waste management event in Lao PDR and abroad.

Task 2.2: Training PONRE staff in 3 priority provinces on pollution source inventory, MIR. Key activities are as follows:

- **Activity 2.2.1:** Conduct planning on monitoring, inspection, and inventory with provincial staffs. Enforcement of the standards and guidelines has been implemented and up-scaling.
- **Activity 2.2.2:** Conduct training program for 3 priority provinces (including on-the-job training) on pollution prevention/ control and solid waste management.
- **Activity 2.2.3:** Propaganda and public awareness on Pollution Control and Management of Wastes and Toxic Chemicals regulations for public and private integrated implementing and implementation.
- **Activity 2.2.4:** To inventory and collect on air and water quality which establishes a centralized database for the state of pollution report preparation.
- **Activity 2.2.5:** Waste and hazardous chemical data collection and inventory in whole country
- **Activity 2.2.6:** Laboratory analyses under contract with NREI or another laboratory.

Task 2.3: Establishing a centralized database on pollution sources inventory. Key activities are as follows:

- **Activity 2.3.1:** Hire an IT and procurement hardware and installation of the hardware on pollution source inventory that could be connected to sector agencies and provinces.
- **Activity 2.3.2:** Installation of hardware and software including testing and training of staff responsible for operation and processing of data/information in the inventory system.
- **Activity 2.3.3:** Preparation of State of Pollution Report.

Task 2.4: Procurement of necessary environmental sampling equipment, portable field investigation kits, other equipment and facilities and vehicles are as follows:

- Stack air sampling equipment;
- Dust portable sampling equipment (PM10 and PM 2.5);
- VOC portable equipment;
- noise meters;

	<ul style="list-style-type: none"> - water quality sampling equipment; - multifunction water quality sampling equipment; - water sampling loading container; - GPS; - safety operating processors; - emergency clear suits; - cameras; - 1 vehicle (1 pickup) 		
Component 3:Subproject administration and monitoring (\$ 99,800)	The activities will include but not limited to annual preparation of AWPB, M&E report, fund flow, procurement (as agreed with EPF). A full time national consultant will be mobilized to assist the subproject team in the overall coordination, planning, and submission of monitoring reports while a full time accountant will be mobilized to work closely with EPF and facilitate effective fund flows including ensuring timely payment of eligible expenses and clearance of subproject advance and proper filing of various accounting documents. The subproject account may be subjected to internal auditing by DWR and/or EPF.		
15. Sub-project direct beneficiaries	<input checked="" type="checkbox"/> Governmental staff Total number (174) of which women (51) <i>Central level (48) of which women (16)</i> <i>Provincial level (30) of which women (10)</i> <i>District level (96) of which women (25)</i> <input type="checkbox"/> Rural communities () Number of people () of which women () <input type="checkbox"/> Students () of which women () <input type="checkbox"/> General public <input checked="" type="checkbox"/> Private sector (30)		
16. Proposed Start Date	October 1, 2016		
17. Proposed End Date (duration in years)	December 30, 2020 (4 years)		
18. Co-financiers (source and amount (US\$) including in-kind contribution; per component if possible)	PCD: about \$30,000 in-kind including staff salary, offices, and utilities		
19. Complementary ongoing or planned projects/programs/initiatives (name/source of funding/linkage)	JICA and ADB program have been completed. There is no longer any complementary ongoing project in PCD, at present, to further strengthening their functional capacity.		
20. Implementation Arrangements	Project Management Structure/SDA implementation team		
	1	Phengkhamla PHONVISAI, Ph.D	Deputy Director General

<p>a. Describe the project management structure.</p> <p>b. What additional staffing or technical assistance is needed to successfully complete the proposed project (e.g. M&E officer, accountant) ?</p>	2	Mr. Keosangkhom PHOMMASENG	Director of Division	Project Manager (PM) and responsibility for Component 1	
	3	Mr. Sengkeo TASAKETH	Technical Staff	Responsibility for Component 2	
	4	Ms. Thidalath VONGXAYA	Technical Staff	Responsibility for Component 3	
	5	Ms. Sayfah PATHAMMAVONG	Technical Staff	Financial Assistant	
	Project Consultants				
	6	Short-term Consultant	<p>These consultants will be hired to assist the project implementation based on the particular components</p> <p>(*) Short-term Consultant #10 is co-financed by ADB</p>		
	7	Short-term Consultant			
	8	Short-term Consultant			
	9	Short-term Consultant			
	10	Short-term Consultant (*)			
	11	Project Accountant			
	12	Assistant to project manager			
	13	M&E and IT support			
Roles and responsibility based on components within DPC					
14	Int'l or Nat'l consultant	<p>Strengthening PCD capacity to develop and improve legislations on control of pollution, toxic chemicals, and wastes disposal</p> <p>Component 1 (Support activity 1.1, 1.2 and 1.3)</p>			
15	Int'l or Nat'l consultant	<p>Staff training and TOT</p> <p>Component 1 (Support activity 1.4)</p>			
16	Int'l consultant	<p>Training PCD and PONRE staff on pollution source inventory and MIR</p> <p>Component 1 (Support activity 2.1)</p>			
17	Int'l or Nat'l consultant	<p>Establish an Environmental Monitoring and Inspection Program (MIP)</p> <p>Component 2 (Support activity 2.2)</p>			
18	Int'l or Nat'l consultant	<p>Establishing a centralized database on pollution sources</p> <p>Component 2 (Support activity 2.3)</p>			

Technical Assistance: Consultants				
	19	National consultant Project Assistant	Support the coordination of the project	
	20	National consultant M&E and IT support	M&E and reporting	
	21	National consultant Project Accountant	Accountant to support the financial management and financial reporting of the sub-project	
21. Summary Budget <i>Detailed activity plan and budget for total period and year one must be attached in annex. Provide a summary of the budget as part of the proposal. Note that the sub-project will be approved for the entire duration but the sub-grant agreement will be signed on a yearly basis based on previous year performance (and agreed triggers as defined in section 24). For approved sub-projects, a procurement plan will be developed by EPFO.</i>	EPF financing (US\$)		In kind contribution from PCD (US\$)	Total Subproject (US\$)
	Component 1:	141,950		141,950
	Component 2:	421,608		421,608
	Component 3:	99,800	30,000	69,800
	Base cost	663,430	-30,000	633,430
	Contingency (10%)	66,343		66,343
	Total	729,773	30,000	699,773
	Remark: In-kind support by the Lao government (government staff time and buildings, etc. please see the detail in the budget plan)			
22. Sustainability <i>Please explain how the benefits of the project will continue or be maintained once the sub-project is complete.</i>	<p>The subproject is designed to build capacity of PCD to work with other key agencies and the 3 pilot provinces to pollution prevention, control and waste management. Strengthening pollution control and waste management legislations while providing appropriate technical assistance (as incentives) to improve knowledge on appropriate technology and/or analytical capacity to project proponents could help increasing effectiveness of waste management by reducing pollution as well as reducing cost. With proper design, these benefits could be maintained after the subproject is completed since the project proponents should have to comply with pollution control and waste management legislations within some help this can be done better. Moreover, when appropriate technology is adopted, the practices would be continued as part of the business and the project proponent could be an important client to EPF future subprojects under pollution control window. Similar effect could be expected from strengthening the legislations at provincial level that promote private involvement in 3R approach. PCD will work closely with other agencies (NREI, DEQP, DWR, MOIC, MPWT, MOIC, MAF, MOH, MOST, MOPS, MOJ, PMO and other agencies) to</p>			

	<p>establish a clear and transparent procedures for implementation of this legal provision.</p>
<p>23. Environment and Social Management Plan (ESMP) <i>Check if an Environmental and Social Management Plan (ESMP) needs to be prepared (see guidelines in the Environment and Social Management Framework (ESMF) to be obtained from EPF website).</i></p>	<p>The subproject will not create any negative social or environment impact. Activities will be related to consulting service, meeting, training and / or study visit that would be strengthen PCD capacity to achieve the subject objectives (section 12).</p> <p>No negative activities in ESMF list are funded under this subproject. PCD will conduct consultation with key stakeholders during the development of policy, regulations, and/or guidelines.</p>
<p>24. Community Engagement including gender issues at community level <i>Check if compliance with the Community Engagement Framework (CEF) is needed and follow guidelines on steps to be obtained from EPF website.</i></p>	<p>Not applicable, However, the subproject activities will promote active participation of the local communities especially in relation to the management of domestic wastes (3Rs)</p>
<p>25. Gender issues (mainstreaming) <i>Please explain how the sub-project is complaint with GoL commitment to gender issues under the project</i></p>	<p>Planning on arrangement of staff for any project activity should take account of gender issue at least 20% of the participants must woman. The project activities which to identify participants for training, study tour and a meeting require to check a proportion of woman's participation.</p> <p>A National Commission for the Advancement of Women (NCAW) was established in 2003 to drive national policy and to promote gender equality and empower women and a National Strategy on the Advancement of Women for 2011-2015 has been established.</p> <p>Equal opportunity and active involvement of PCD staff both men and women will be applied. It is expected that training and staffing opportunities included under this subproject will benefit a proportion of women (with an aim of 20%). Staff in PCD, DONRE, NREO and other concern agencies will participate in gender sensitivity training to be conducted by the World Bank and/or LENS2 project. During the implementation of the subproject record will be made to provide information on men and women that are benefit or involve in the implementation of the subproject</p>

<p>26. Agreed Annual Performance Triggers <i>For information find below the list of agreed targets that must be achieved to trigger approval of next year's funds:</i></p>	<p>Agreed triggers:</p> <ul style="list-style-type: none"> • Compliance with fiduciary and safeguard requirements (at least Moderately Satisfactory in year 1 and Satisfactory in subsequent years) • Compliance with reporting requirement (number, quality and timeliness) (at least Moderately Satisfactory in year 1 and Satisfactory in subsequent years) • Year 1, at least 50% of activities in AWPB completed. Year 2 and after, at least 75% of activities in AWPB completed • All outcome targets for current year are measured, evaluated and show progress toward target • AWPB produced for the new fiscal year cleared by WB and approved by EPF Board
<p>27. Document Checklist <i>Please ensure to attach the following based on templates (excel file) provided:</i></p>	<ul style="list-style-type: none"> <input checked="" type="checkbox"/> Sub-project results framework (entire period) <input checked="" type="checkbox"/> Sub-project detailed budget entire period (2a. per component and 2b. per category) <input checked="" type="checkbox"/> Sub-project detailed activity work plan per component year 1 <input type="checkbox"/> Sub-project Environmental and Social Management Plan (ESMP) if applicable

Date:

Approved by:

Submitted by:

Phengkhamla PHONVISAI, Ph. D
Deputy Director General
Pollution Control Department, MONRE

Keosangkhom PHOMMASENG
Director of Division
Pollution Control Department, MONRE

Edits to a submitted application prior approval not requiring-submission, accepted by SDA and EPF, are summarized below: *(Please list application form reference number (e.g. #20) or annexes and date of EPFO communication on accepted changes to SDA).*