# PMR INDONESIA

## PROJECT IMPLEMENTATION STATUS REPORT (ISR)

*The PMR Project Implementation Status Report should be prepared by the Implementing Country or Technical Partner, with the support of the Delivery Partner and/or the PMR Secretariat. For any questions related to the preparation of the PMR Project Implementation Status Report, please contact the PMR Secretariat at: pmrsecretariat@worldbank.org.*

## 1. SUMMARY OF INFORMATION

| | |
|---|---|
| Implementing Country/ Technical Partner: | Republic of Indonesia |
| Reporting Period: | From 10/01/2018 to 09/30/2019 |
| Report Date: | 10/03/2019 |
| Implementing Agency: | Coordinating Ministry for Economic Affairs (CMEA) |
| Contact Person: | Mr. Dida Gardera (CMEA)<br>Mr. Roy Rahendra (PMU) |
| Grant Executed By: | UNDP Indonesia |
| Grant Effectiveness and Closing Dates: | 11/11/2016 – 10/10/2020 |
| Grant Amount (USD): | USD 3,000,000 |
| Funding Mobilized (USD): | USD 2,949,884.79 |
| Funding Committed (USD): | USD 50,115.21 |

## 2. OVERVIEW

Since its start in early 2017, the project has been progressing to date with completion of GHG emissions profiles in power and industry sectors (Component 1), finalization of the MRV systems for both sectors (Component 2) and piloting the MRV systems in power, cement and fertilizer industries (Component 3).

Works in development of market-based instrument framework (Component 4) is progressing to piloting phase as the study of MBI options is completed and various stakeholders are being consulted on MBI pilot implementation. A carbon offsetting mechanism is being piloted and voluntary ETS(s) is being prepared. As a part of the voluntary ETS preparation, technical discussions on cap setting for power and industry sector is also held between the Ministry of Energy and Mineral Resources, the National Power Company (PLN), the Ministry of Industry and related industry associations.

Organization, communication, consultation and stakeholder engagement (Component 5) is implemented continuously as the overarching component of PMR Indonesia activities.

## 3. IMPLEMENTATION REPORT BY COMPONENT

***Differences between the Objectives/Activities in the Market Readiness Proposal and the Grant Agreement.***

| | |
|---|---|
| Are there any important and material differences between the objectives/activities proposed in the Market Readiness Proposal and endorsed by the Partnership Assembly of the PMR and those agreed to in the Grant Agreement with the Delivery Partner and described in the Project's Results Framework? | *No.* |

| |
|---|
| *n/a* |

### Implementation Progress by Component

| **A. Component 1:** | **Profiling emissions in the power and industry** |
|---|---|
| **Status**:<br>**Completed** ✓ | **Completed** ✓<br><br>This component aims to provide a better understanding of the emission profile (for power and industry sectors) of Indonesia using real data provided by the key industry stakeholders, policies and plans for the growth in each of the sub-sector, and appropriate costs and investment figures collected at company/facility levels. This improved emission profile is expected to clearly inform policymakers about the sectoral readiness of emission mitigation as well as it would serve as the basis for the development of policies on GHG mitigation action for the target areas, including the decision making on the implementation of a market-based instrument.<br><br>A study was conducted to develop the GHG emission profile, to calculate and project baseline emissions, estimate potential emissions reduction, and estimate $CO_2$ abatement cost of mitigation actions in power and industry sectors. A marginal abatement cost curves (MACC) also developed to present potential measures to reduce GHG emissions in respective sectors. The report of this study updated and covered more sectors than the previous studies related to abatement cost curve which have been published with different approach and different results.<br><br>The areas covered within this study were power sector and energy-intensive-industry sectors. For power sector, the study involved data collections from 1,140 out of 6,138 generation units across Indonesia. This |

| | |
|---|---|
| | 1,140 units represents 92% of total national production of 248 TWh. While for industry, the study involved 8 energy-intensive-industry sub-sectors (e.g.: cement, pulp and paper, chemical, fertilizer, food and beverage, iron and steel, textile, and ceramic and glass) with more than 40 industry clusters across Indonesia.<br><br>The report is currently being used as valuable references in discussions among government partners. The reports are available and can be downloaded in PMR Indonesia's website *(www.pmr-indonesia.org)*. |
| **Comments**: | *This study involved large scale of target populations with complexities of power-plants and 8 industry sub-sectors (in 40 clusters) to be engaged. However, the team was able to completed the task by mid 2018. The study was able to be completed by working closely with the government technical working groups and using various means to engage stakeholders and collect data (through workshops, meetings, site visits, etc.).* |

| **B. Component 2: Design of governance aspects of an MRV system** | |
|---|---|
| **Status**:<br>**(Completed) ✓** | **Completed ✓**<br><br>As proposed in the MRP, the project has completed the design of governance aspects of the MRV system using the existing building blocks and initiatives. The MRV system includes the process of gathering GHG emissions monitoring data at various installation levels in the power plants and energy intensive industries in order to corroborate claimed GHG emission performance in both sectors.<br><br>**To date, key important milestones and activities can be highlighted as follow:**<br><br>**Design of MRV system in power sector (Completed) ✓**<br><br>**In the power sector,** The MRV guideline for power sector has been completed and launched on May 15th, 2018. The guideline was developed in line with the international and national recognized procedures to calculate GHG emission for the power sector. Along with the support in designing the MRV system, PMR also supported the MEMR in developing the online reporting system for GHG Emission for power generations, called APPLE-GATRIK (*Aplikasi Penghitungan dan Pelaporan Emisi Ketenagalistrikan*). The online system was completed in June 2018 and launched to support MRV pilot implementation in August 2018. The MEMR utilizes APPLE-GATRIK to replace the offline system that has been running since 2003. PMR also supported the MRV training workshops for power sector covering three regions (i.e. West Indonesia, Java and Kalimantan, and East Indonesia). The training workshops were involving |

| | |
|---|---|
| | representatives from all power companies (including PLN and IPPs).<br><br>In line with MRV system development, 2 (two) draft regulations for MRV GHG emission in power sector has been finalized to be the legal basis for full implementation of the MRV system, namely: (1) Regulation related to the institutional setup for MRV GHG emission in energy sector (i.e. draft Minister Regulation on GHG Emission Inventory and Reporting in Energy Sector) and (2) regulation for mandatory reporting system (Directorate General Electricity Decree on GHG Emission Reporting System for Power Sector). These regulations describe the institutional setup of MRV GHG emission and the MRV framework, whereby the DG Electricity MEMR will be responsible to conduct the inventory of GHG emission and monitor mitigation actions in the power sector.<br><br>**Design of MRV system in Industry sector** (Completed) ✓<br><br>In industry sector, the existing sectoral MRV systems were designed as a system to calculate and report GHG inventories for National Communications purposes, as well as to verify the emission reductions in each of sub-sectors (to report progress on mitigation actions).<br><br>With PMR support, MoI has taking the "basic MRV" system one step further by integrating the industry GHG reporting system in sub-sectoral level with the MoI's national main platform for pool of information and data submission. MoI has built a web-based integrated system collecting both GHG and non-GHG related-data, including Globally Harmonized System of Classification and Labeling of Chemicals (GHS) data (the SIM Online). This online system enabled MoI to develop an aggregated GHG inventory data for each sub-sectoral level.<br><br>At sub-sectoral level, MoI is designing several MRV systems and developing guidelines, utilizing a range of different guidelines tailored specifically for each of the sub-sectors. PMR was contributing in the development and improvement of several MRV guidelines for cement, fertilizer, and pulp & paper, which directly contributed to the overall design and development of MRV system at sectoral level.<br><br>For the regulations, a draft of Minister Regulation on "GHG Emission Reporting in Industry Sector" was finalized. This regulation was prepared to be used as the legal basis for mandatory reporting for industry sector. This policy draft has been included in the MoI's legal drafting agenda, stipulated in the Minister of Industry Decree No. 820 year 2019 on "Program on Priority Draft Regulations for the Ministry of Industry". It is expected that the industrial sector GHG emission reporting policy can be immediately ratified by the Minister of Industry by 2020. Another draft regulation was also finalized, specifically for MRV in cement industry. *Both drafts were submitted to the Legal Bureau for further process.*<br><br>**Capacity Building** (Completed) ✓ |

| | |
|---|---|
| | A series of capacity building activities on MRV for GHG emission has been conducted involving participants from of relevant government agencies and private sectors. The capacity building activities focused on general information of climate change, methodologies for quantification of sector's GHG emission, and general understanding of market-based instruments.<br><br>For industry sector, the capacity building and awareness raising activities were conducted in two approaches. The **first** was conducting activities specifically tailored for each of the different eight industry sub-sectors, and the **second** one is combining the sectors as one big industry sector. In several cases, the activity also combining target participants of industry and power sectors. Different approaches were delivered to different target, as each of the sub-sectors have different level of capacity. The training materials were tailored specifically to the sub-sectors. For cement and fertilizer sub-sectors, the activities were also aimed to bring all the industries to the same level of knowledge and capacity hence they can contribute and participate actively in improving and developing the MRV technical guideline which were being developed by MoI. Whilst, for the other 6 sub-sectors, the main objective of the activities was to give the participants trainings on GHG emission calculation in rather basic level. The expected outcomes from all activities were to ensure that the participants are able to make important and critical input in the design of company's inventory and to conduct monitoring, reporting and verify the data needed for GHG emission calculation.<br><br>Through series of capacity building activities, PMR has facilitated the disseminations and trainings of APPLE-GATRIK for power sector as well as SIINas (and online SIM) for industry sector - to stakeholders involved in activities under GHG profiling component (see above). Through this venue, the data from power and industries were entered into the online system. Additionally, following the dissemination and training activities, PMR also facilitate the discussion to integration of several online GHG emission reporting systems owned by different sectoral ministries (interconnectivity of GHG emission data). It was suggested to develop a Memorandum of Understanding (MoU) to enable one Ministry to directly access relevant activity data from another Ministry's existing database. The degree to which such arrangements are formalised will be defined later.<br><br>As of June 2019, more than 168 workshops, training, seminar and awareness raising campaign on MRV of GHG emission and MBIs were conducted involving professionals in GHG accounting and reporting from more than 300 companies from 8 sub-sectors (industry) and 140 power plant companies (representing 4,300 power generation units). |
| **Comments**: | *Despite of delayed issuance of the two regulations, MoI continuing the monitoring and reporting of GHG emissions using the existing regulation (Presidential Regulation 61/2011 - on National Action Plan on GHG* |

| | |
|---|---|
| | *Emission Reductions) – as the legal basis.*<br><br>***The issuance of Minister decree*** *on "Activity Data Reporting on GHG Emission Sources in Industry Sector" are on hold awaiting Minister's decision on the integration the industrial GHG reporting into the larger national industry information system and database ( SIINAS)*<br><br>***Meanwhile for cement sector****, the monitoring and reporting for $CO_2$ emission reduction is being (continuously) implemented under (existing) Minister of Industry Regulation no. 12/2012 on "Roadmap on $CO_2$ Reduction of Cement Industry Emissions".* |

| **C. Component 3: Piloting an MRV system** | |
|---|---|
| **Status:**<br>**(Completed) ✓** | The works in Component 3 is closely related to the works in Component 2. The MRP proposes to develop and pilot MRV systems for:<br><br>• Electricity generations – with the JAMALI interconnected grid as the pilot area; and<br>• Energy intensive industries – with cement and fertilizer as pilot area.<br><br>**To date, key important milestones and activities among others:**<br><br>**Mapping of MRV system (Completed) ✓**<br><br>• In order to have an updated and clear information of MRV system, a study was conducted to mapping the MRV of GHG emission in the national and sectoral level, especially in the power and industry sectors. The study was completed on March 2018 and the report has been presented to the power and industry working group, to equipped them with the current progress/status on national MRV systems and its implementation.<br>• The study showed that there are at least 4 GHG reporting system that exists in Indonesia and being implemented by different line ministries for the same purposes. With this situation, data management systems and harmonization between relevant ministries / institutions are one of many challenges in implementing the MRV system at the national level. At the sectoral level and facilities, understanding the calculation of emissions, as well as data collection is still inadequate. Development of standards and methodologies for calculating GHG emissions also needs to be done.<br>• Efforts to improve the implementation of the MRV emission system in Indonesia have its own challenges in each sector. Capacity building for the calculation of GHG emissions at the personal, institutional and social levels are also needed. Improvement efforts should be focused on the sources that have been identified as key categories and to improve the quality of the GHG inventory to a higher tier. In the data |

supply management system, improving the quality of activity data and emission factors, documentation and the QA / QC system are priority improvements in the implementation of the emission MRV system in Indonesia.

- This study later triggered the initiative of having all the systems to be harmonized (integrated/synchronized) to avoid information overlaps and to avoid additional burdens to the industry and private sectors.

**Piloting MRV for Power (Completed) ✓**

For power sector, the MRP proposes to implement pilot activities in Java, Madura, and Bali (JAMALI) Grid, considering that Power generation capacity in these islands is accounted for around 65% of Indonesia's total power generation capacity (2016). Jamali Grid is the largest grid in Indonesia where more than 300 power-generating units is operating, most of which are fossil-fueled. However, due to the increased readiness of the sector – *the pilot activities were implemented covering national level.*

To ensure that the MRV pilot activities can be implemented properly, the DGE-MEMR setup a special team assigned to ensure the guidelines in GHG emissions calculation, reporting, monitoring, and verification were followed to ensure accuracy of GHG emissions data and increase the effectiveness of GHG inventories in line with the principles of transparency, accuracy, completeness, comparability, and consistency.

Site visits were conducted to PLTU (coal-fired power plant) and PLTGU (combine cycle steam and gas power plant) in three power plant complexes located in Banten, Central Java, and East Java provinces:

1. PLTU Labuhan, in Banten
2. PLTU Tanjung Jati, in Jepara, Central Java
3. PLTU Jawa Power, in Paiton Probolinggo – East Java
4. PLTU Pembangkitan Jawa Bali, in Paiton Probolinggo – East Java
5. PLTU Paiton Energy, in Paiton Probolinggo – East Java
6. PLTGU Tambak Lorok, in Semarang, Central Java

The objective of the site visits was conduct monitoring and verification as well as to support the power plant companies in verifying their GHG emission data reported through APPLE-Gatrik, to increase the knowledge and skill of relevant staff to operate APPLE-Gatrik and to gather feedback and input for APPLE-Gatrik improvement. The site visits were implemented during the 4th quarter of 2018.

**Piloting MRV for Industry (Completed) ✓**

For industry sector, the piloting for MRV was focused on sub-sectors which already have completed profile related with historical emission and baseline calculation, in this context are cement and fertilizer. As the leading sub-sectors in industry, cement and fertilizer industry sub-sectors have already been provided with MRV guidelines specifically tailored for

| | |
|---|---|
| | each of the sub-sector, developed together with MoI, associations and industries. It was identified that early involvement of private sector stakeholders facilitated good cooperation spirit which remains throughout the whole prosess of development and implementation of MRV.<br><br>Guidelines on MRV for fertilizer industry was developed and using the previous version of national technical guideline on GHG emission calculation for fertilizer industry as the basis. These guidelines were piloted in in 2018 in all fertilizer industries. Site visits for the purposes of guideline trial and monitoring and verification were conducted to PT Pupuk Sriwidjaya (South Sumatera), PT Pupuk Kalimantan Timur (East Kalimantan), PT Pupuk Kujang Cikampek (West Java), and PT Petrokimia Gresik (East Java).<br><br>For cement industry, as cement already has MRV guideline published by MoI in 2016, the MRV pilot activity under PMR was focused in improving the existing MRV scheme, by ensuring that the scheme is implemented in all cement companies, and adding the standardized monitoring protocol in facility level. Two visits were conducted to PT Semen Tonasa (South Sulawesi) and PT Indocement Tunggal Prakarsa Plant Palimanan (West Java) to identify the internal monitoring protocol in facility level as well to verify the GHG emission report. |
| **Comments**: | *For power sector, the discussions in MRV design has culminated in the completion of two draft regulations (at Ministerial and DG level) for GHG Emission Reporting System for Power Sector. At the same time, the Online (web-based) emission reporting system is also being developed which will be integrated into the existing SIMPEL of MoEF (Sistem Informasi Pelaporan Elektronik Lingkungan Hidup). Stakeholders has reach an agreement to have cap-setting for power generation sector. A series of cap-setting discussions is being held under the power working group.*<br><br>*For industry sector, Law (Undang-Undang/UU) No 3 Year 2014 on Industry sets the framework for overall MRV system in industry sector, in which the Law itself mandates the implementation of green industry standard and the national industrial information system (SIINas). As mentioned earlier, although up until now the draft regulation for mandatory reporting of industry sector installation operators to monitor and report their emissions on an annual basis is still awaiting for final approval from the Minister (of Industry); a draft regulation in sub-sectoral level was also developed, namely draft regulation on MRV for cement industry. However, this draft is still put on-hold awaiting the transition in government.* |

| D. Component 4: Development of a market-based instrument framework | |
|---|---|
| **Status:**<br>Partially Completed and On-going | This particular Component is under the supervision of Working Group of Market-Based Instrument, led by Ministry of Environment and Forestry (MoEF), to elaborate the MBI options for Indonesia and its development roadmap. In parallel with the underway MBI options study, technical discussions with various stakeholders has been initiated to explore possibilities of piloting and cap setting approaches.<br><br>**To date, key important milestones and activities among others:**<br><br>**A Comprehensive Assessment on MBI Options for Indonesia. (Completed) ✓**<br><br>As per the project document, a study for market-based policy options to scale up climate change mitigation in Indonesia has been completed early this year. The outputs of this study are compiled experience of MBI in other countries, MBI options for Indonesia and a selected priority MBI option to be further elaborated by PMR project. This study on market-based policy options is very important and has been used as an important reference during MBI discussions.<br><br>The final report is available together with the models of four market-based instruments scenarios, namely:<br>• ETS for power and industry sector;<br>• Energy efficiency certificate for industry sector;<br>• Cap-and-tax; and<br>• Carbon offset mechanism.<br><br>The models estimated the macro economic impacts as well as the mitigation impact of the MBI scenarios whilst estimating the reasonable carbon price of emission reduction units from several types of mitigation actions. Aside from the modelling, the study also produced several other reports in carbon market condition scoping, compilation of several MBI experiences from other country, and a policy gap analysis.<br><br>The study suggested that the application of market-based instruments, especially those of the type of Emissions Trading System (cap and trade) is suitable for Indonesia's condition and has several advantages:<br>• To control GHG emission levels with lower compliance costs for actors/industries;<br>• Has a solid legal basis through Law 32/2009 and PP 46/2017;<br>• Can be immediately applied in several subsectors that are ready, such as power plants, cement and fertilizer;<br>• In line with the concept of low carbon development because implementation in the three sub-sectors can reduce emissions to 58 million tons of carbon dioxide and at the same time encourage an increase in GDP of up to 0.02 percent.<br>• The implementation of the Emissions Trading System can be done in |

| | |
|---|---|
| | stages beginning with a voluntary appraisal and then applying relatively loose emission cap (emission cap).<br><br>**B. Capacity Building Workshops on MBI** (Completed) ✓<br><br>MBI itself is not a common knowledge in Indonesia even among government officers. To levelize the knowledge and reach common understanding about MBI, PMR organized series of technical workshops on MBI. The technical workshops were involving representatives from the CMEA, the DG for Climate Change (MoEF), the Office of the President's Special Envoy for Climate Change (UKP-PPI), the Fiscal Policy Agency (MoF), the Green Industry Research Center (MoI), the DG Electricity and DG Renewable Energy (MEMR), Bappenas, National Electricity Company (PLN), five Industry Associations, and several representatives from the private sector.The topics covered in these workshops were the MBI definition, types, design principles, implementation challenges, etc. The discussions in the workshops were very constructive to build a common understanding of MBIs and its uses. It is expected that Carbon market knowledge among the working groups' members has been increased through these various workshops and coordination meetings. Ideas on voluntary market-based instruments were also conversed and being discussed with the relevant ministries/agencies.<br><br>As an addition, to increase knowledge and awareness, PMR Indonesia also produced books, publications, and other awareness raising materials to support capacity building in carbon market related issues.<br><br>**C. MBI Pilot Activities** (On-going)<br><br>The technical working groups were in agreement to start a (voluntary) trial in putting a cap for GHG emission in power sector. This recommendation has been proposed to the Director General of Electricity of MEMR and commitment has been reached to have the cap setting in 2019. The discussion stream on cap setting is being organized by PMR involving relevant stakeholders, such as: DG Electricity, DG Renewable Energy, Data and Information Center of MEMR, MEMR Research Center, PT PLN, Association of Independent Power Producers, and MRV energy experts. A collaboration with GGGI on cap study for power sector is also on going. For industry sector, discussions have been started to find the best approach to determine cap level in cement and fertilizer industries.<br><br>Another market component under development is a domestic crediting mechanism. PMR supports MoEF to develop this scheme called Indonesia Certified Emission Reduction (ICER) Mechanism. The carbon unit from this mechanism is expected can be used for result-based payment or offset purposes, either by government or non-state actors. Several guidelines, methodologies and tools have been produced with PMR support and a pilot validation/verification has been conducted this September 2019 for a microhydro power plant in Jambi province. |

| | |
|---|---|
| **Comments**: | *A multi-sector pilot market implementation (a combination of voluntary ETS and crediting mechanism) is being discussed among the ministries, with a target to be implemented in 2020. The pilot activities will result in lessons learned and improvement opportunities that will help Indonesia to address the capacity gaps as identified in the MBI study. In addition, a general framework for MBI development is being planned that will serve as a multistakeholder reference for further MBI development works, including as reference to fill the identified gaps.* |

| **E. Component 5: Organization, communication, consultation and engagement** | |
|---|---|
| **Status:** **(Completed)** ✓ | **ORGANIZATION (Completed)** ✓<br><br>**A Steering Committee and three Technical Working Groups** were established, which responsible to work on three different thematic program:<br>• WG for Power – lead by MEMR<br>• WG for Industry – lead by MoI<br>• WG for MBI – lead by MoEF<br><br>**The CMEA (Coordination Ministry for Economic Affairs)** is the primary beneficiary of this project, while MEMR (Ministry of Energy and Mineral Resources) and MoI (Ministry of Industry) are the main beneficiaries of the program. In the implementation arrangement, the MoEF (Ministry of Environment and Forestry) as the focal point of UNFCCC were invited and involved to lead the MBI discussion, together with the Ministry of Finance (MoF), and National Development Planning Agency (Bappenas) who would play an important role in mainstreaming this project into the national development plans and the national budgeting system.<br><br>**COMMUNICATION AND CONSULTATION (Completed)** ✓<br><br>Key important milestones and activities were implemented, among others:<br><br>**The kick-off meeting** was conducted on 1 March 2017, led by CMEA and attended by all relevant agencies, among others: Bappenas, Ministry of Finance (MoF), Ministry of Environment and Forestry (MoEF), Ministry of Industry (MoI), Ministry of Energy and Mineral Resources (MEMR), PT PLN (state owned electricity company), industry associations (cement, fertilizer, pulp and papers, etc.)<br><br>**Series of technical discussions** has been conducted to facilitate the PMR program implementation for the three thematic areas on: power, industry, and MBI. Since the program launch on March 1st 2017, more than 168 meetings |

were conducted, ranging from mini internal meetings, focus group discussions, into large seminars (see Annex 1-2).

**Series of public discussions** were also held during August and September 2018 to discuss issues on carbon market and carbon pricing instruments. These public discussions were part of PMR communications strategy for awareness raising and engagement activities. PMR Indonesia, jointly with Directorate General of Climate Change (DG-PPI), MoEF Research and Development Center (Balitbang KLHK), and the Advisory Board of Climate Change (DP-PPI) collaboratively organized 5 weekly public discussions to discuss the role of carbon market and carbon pricing instruments to promote Low Carbon Development Pathways in the Context of NDC Implementation.

**STAKEHOLDERS ENGAGEMENT (Completed) ✓**

Stakeholders were engaged through various means. At the 1st level, engagement managed through the establishment of Project Steering Committee (SC) and 3 technical working groups (WGs). The memberships of the SC and WGs consists of representatives from relevant line ministries (CMEA, Bappenas, Min. of Finance, MEMR, MOI, MoEF, etc.), and also from relevant private sectors (industry and industry associations).
Engagement at 2nd level, were managed through various training workshops and capacity building program, where wider audience from government and private sectors were involved in the disseminations, trainings and knowledge sharing activities.
Engagement at 3rd level, were managed through seminars and public discussions workshops at national level – involving general public (including non-energy private sectors, civil societies, NGOs, academia, etc.). During the project, there were 5 events (public discussions at national level) – on the topics of MRV and MBI to scaling up national mitigation actions.

Various tools and media were also developed to communicate and disseminate the PMR programs, among others: briefing Papers / Policy Papers, Website (www.pmr-indonesia.org), newsletter, brochures, multimedia presentation materials, infopack, etc.

**Key important milestones and activities were implemented,** with achievements as follows:

- For effective project management, a Project Management Unit (PMU) has been established to facilitate the PMR program implementation and also served as National Secretariat for PMR Indonesia.
- A series of working group consultation and technical meetings have been facilitated since the PMR project was launched on 1 March 2017. During the project implementation, more than 168 workshops, meetings, and seminars were facilitated (see below).
- Engaging active participations from:
    - 140 power plant companies, with more than 4,800 power generation units – representing more than 95% national power generation capacity.
    - 450 people as representatives from 160 companies and associations of

| | |
|---|---|
| | 8 industry sectors (with more than 40 industry clusters) – representing more than 70% of national energy consumption from the nation's biggest industrial companies.<br><br>• For extensive outreach, a website was developed with the following address: www.pmr-indonesia.org. This website is a promotional as well as engagement tools for outreachning and engaging wider public/stakeholders and to disseminate the knowledge product of PMR as well as informing the PMR activities.<br>• For communications and awareness raising, the PMR Indonesia produced brochures and other communications/campaign materials that distributed and used to campaign and promote the PMR's program and activities. The communication material includes: technical notes, briefing papers, leaflet and brochures, monthly/quarterly bulletin, booklets, etc. At least, 25 reports, publications, and technical/briefing papers were produced (*copies are available at www.pmr- indonesia.org*).<br>• To understand the public perceptions toward carbon market, annual perception surveys have been conducted. The surveys indicated that most stakeholders (general public, governments, industry and private sectors) has sufficient level of awareness to the market issues, however additional capacity building and socialization/dissemination is needed for both general public and those who has been involved in carbon market discussions. This input has been presented to MBI working group to be included further in the capacity building strategy. |
| **Comments**: | *This component is being and continuously be implemented in parallel with the other components of PMR program.* |

## 4. PROGRESS, CHALLENGES, AND LESSONS LEARNED

**Important policy or regulatory developments related to the Grant's objectives and activities:**

1. **Issuance of Government Regulation No. 46/2017 on Environmental Economic Instruments.**

   On 10 November 2017, the Indonesian government issued Government Regulation No. 46 of 2017 on Environmental Economic Instruments ("GR 46/2017"), which came into effect on the same date. GR 46/2017 was issued as the implementing regulation of Articles 42 and 43 of Law No. 32 of 2009 on Environmental Protection and Management.

   According to this regulation, the environmental economic instrument is a set of economic policies to encourage the central government, local governments, and everyone towards the preservation of environmental functions. The environmental economic instrument covers:
   1. development planning & economic activities;
   2. environmental funding; and
   3. incentive and/or disincentive.

   The first part of the environmental economic instrument mainly covers the central and local government structure to plan natural resources and environment budget and compensation scheme between the government agencies.

   The second part which is the environmental funding section covers:
   1. guarantee fund for environmental restoration,
   2. pollution control funds and/or environmental damage or restoration,
   3. trust fund/ conservation support.

   Based on article 30 of this government regulation, the environmental funding is managed by the government with two mechanisms. The first mechanism is financial management system by a public service agency. With this mechanism, the government can also appoint a custodian bank. The second mechanism, the government may also form other type of system based on applicable government regulations. The mechanism shall be governed by a presidential regulation. However, such regulation has not existed yet.

   From the definition and coverage of the environmental economic instrument, it is explained on article 3(b), article 20(1.b), and article 29(1), that environmental funds will be made available and sourced from grants and donations for the purpose of preservation of atmospheric function. Article 29(3) describes several actions which are categorized as the preservation of atmospheric function:
   1. environmental conservation as part of climate change mitigation action,
   2. environmental conservation as part of climate change adaptation action,
   3. ozone layer protection;
   4. supporting activities to control climate change; and
   5. other activities regulated by the relevant Ministers.

The third part of the environmental economic instrument has dedicated sections which pertains to various incentives and disincentives as follows:

1. Development of environmentally friendly label system;
2. Procurement of environmentally friendly goods and services;
3. Implementation of environmental tax, retribution, and subsidy;
4. Development of environmentally friendly financial service institution system;
5. Development of waste disposal and/or emission permit trading system;
6. Development of environmental insurance;
7. Development of environmental service payment system; and
8. Environmental protection and management performance award system

To utilize those environmental economic instruments, (i) state revenue and expenditure budget by the central government, (ii) regional revenue and expenditure budget and (iii) other legal and non-binding sources of fund are used.

The following are the distinctive market-based instruments under the environmental economic instrument:

*Environment Tax (Articles 38-40)*

- Application of environment tax and retribution is done by the central and local government.
- Central and regional tax rate is imposed on person who utilizes natural resources based on environmental impact criteria.
- Regional public service retribution tariff is imposed based on the characteristics and amount of the volume of waste or garbage produced by facilities and infrastructure.

*Subsidy (Articles 38 and 41)*

- Subsidy is applied to: (i) person producing environment-friendly goods/services, (ii) person taking an effort of preventing environmental pollution and (iii) person producing product/technology with an impact on the improvement of the environmental function.
- The criteria for the subsidy recipients is established by the Minister/head of agency in charge and local governor.

*Emission Trading Scheme (Articles 43-44)*

- Development of emissions trading scheme which is done by the central and local governments has objectives to: (i) reduce pollution level in the environment, (ii) set emission allowance quota fairly and proportionally, (iii) support implementation of compensation and environmental benefit inter-regionally, (iv) support implementation of impact assessment continuously.
- Allocation and management of the emission allowance to be traded based on the environmental capacity. In addition, the government has to set some rules for the emission allowances in terms of validity, value, criteria, and requirement quota allocation.
- To implement emissions trading scheme, central and local governments must establish: (i) an institutional system for the trading scheme; (ii) mechanisms of the trading system; and (iii) provisions on the application of other related environmental economic instruments and encourage effectiveness of trade execution.
- In addition, article 52 describes that development of a waste disposal or emission permit trading system must be done within seven years after this government regulation comes into effect.

*Environmental Service Payment System (ESPS) (Articles 47-48)*

- The central government and local government facilitate the mechanism of transfer of an amount of money from the Environmental Service Provider to the Environmental Service User under a performance-based binding agreement.
- ESPS, similar to subsidies and taxes encourages the public to conserve natural resources.

*Result-Based Financing (Articles 49-50)*

- A performance reward system on environmental protection and management is conducted by central and local government which is directed to a people or an organization or an activity which meet criteria on efforts to protect and manage environment and to manage natural resources.
- The performance reward system is used for legal compliance, innovation, and to encourage natural resource conservation and preservation of environmental functions.
- The performance reward system can be done in the form of funds and/or other type of rewards.
- The performance reward system must take into account on implementation of economic development planning and incentive/disincentive.
- Detailed criteria of the performance reward system must be regulated by a ministerial regulation.

**2. Issuance of Presidential Regulation No 77 Year 2018 on Environmental Fund Management**

Subsequent to the issuance of Government Regulation No. 46/2017 on Environmental Economic Instruments, the government of Indonesia on September 2018 issued a Presidential regulation PR No. 77/2018 on Environmental Fund Management. This regulation will be the legal basis for the establishment of the Public Service Agency (BLU) institution, named the Agency for Environmental Fund Management (BPDLH).

This regulation mandated the Minister of Finance to form the public service agency and carbon trading is one of the modalities that can be used by the agency to support the environmental conservation. This regulation also mentioned a steering committee lead by a coordinating ministry of economy that shall provide policy direction for implementation for this agency.

**3. Issuance of Minister of Finance Regulation No 137 Year 2019 on Environmental Fund Management Agency**

In October this year, Minister of Finance has issued a regulation PMK No. 137/2019 which marked the establishment of the Environmental Fund Management Agency as described in GR. No.46/2017. The Agency establishment is expected to provide another readiness element for implementation of market-based instrument in Indonesia, in particular for the carbon tax and result-based payment.

**Challenges**:

Climate change is gaining attention and commitment of the Government of Indonesia. More and more sectoral policies were issued or being developed to cope with climate change challenges. Whilst this is an overall positive development, both for PMR and low carbon development, there

might be aspects that will need better inter-ministerial harmonization. CMEA, as one of the coordination entities in Indonesia, is working closely with sectors to identify overlaps/gaps and improve the policy frameworks where necessary.

In April 2019, Indonesia had conducted a general election (presidential and parliamentary elections). While President Joko Widodo remains in office for another term, it is most likely that he will **form his new cabinet**. In October/November this year, the President will announce new cabinet structure as well as appointment of new ministers. **This government transitions creates another challenge**. However, the government has finalized the Indonesian Low Carbon Development Initiative (LCDI) which outlined in the National Medium-Term Development Plan (RPJMN) 2020-2024. This will increase possibility that specific issues such as carbon pricing and market mechanisms for climate change mitigation will be given bigger priority than what we have today.

**Delayed issuance on sectoral MRV regulations** will also pose a risk on the full implementation of a sectoral obligatory RV system. However, this does not fully prevent the government/sectoral-ministries from continuing to carry out sectoral reporting obligations using the existing regulation (Presidential Regulation 61/2011 - on National Action Plan on GHG Emission Reductions) – as the legal basis.

**Lessons learned:**

**Involve key stakeholders throughout the dialogue process**. Changes in government regimes often encourage policy changes that sometimes occur quickly in a short time. This changes occassionally create non-synchronization of inter-ministerial policies. Proactive engagement of key stakeholders in early stage of the process will be useful in reducing the disharmonization of policies between ministries and agencies. With updated information acquired by CMEA (as one among coordination entities), PMR project could quickly adapt or fine-tune its activities in accordance with the newest policy development or contribute in the policy development processes.

**Additional:**

Lessons from the 2017/2018 perception survey indicated that the project should include specific outputs on communicating results to stakeholders and engaging stakeholders during all stages of the Implementation Phase. The activities under those outputs will demonstrate the value of the project which may strengthen the Government's appreciation of the results and recommendations, and therefore make it more likely that the Government will support the approval of results and recommendations for post-project implementation.

**Important changes in the technical design or approach related to the Grant's activities:**

**Developments:**
n/a

**Challenges:**
n/a

**Lessons learned:**

n/a

**Key capacity issues (implementation, technical, financial management, procurement) related to the Grant's activities:**

**Developments**:

After series of trainings and capacity building workshops conducted for working groups members in 2018, the team had identified that awareness and knowledge of industries and industry associations on the topics of MRV and market-based instrument are increased. However, the current ongoing survey shows that there are different levels of understanding among different sectors of industry.

**Challenges**:

Trainings are needed for stakeholders from different industry sectors, to bring them into the sam level of knowledge and understanding on the issues of MRV and MBIs. Different target sectors may require different modules of the training, depending on which type of guideline they will use (i.e. cement using CSI protocol, others using IPCC GL 2006, etc.)

**Lessons learned:**

A tailored training program (and training modules) should be developed by the ministry to facilitate a continuous learning process for its stakeholders, especially the relevant private sectors in power generations and energy intensive industries.

**Coordination with other carbon pricing initiatives, including those funded by other donors:**

A couple of carbon pricing-related initiatives funded by other donors are described as below:

1. **Global Green-Growth Initiatives (GGGI) Program on Energy Sector**

   **Developments**

   PMR Project and Ministry of Energy and Mineral Resources has agreed on GGGI support on a study of cap for power sector. The study is started in July 2019 and expected to completed in October 2019.

   **Challenges:**
   As each program has its own project modalities, the decision on cooperation's scope has to follow the applicable procedures. The different stakeholders also contribute to additional time and efforts to appropriately explain the cooperation plan.

**Lessons learned:**
Coordination among initiatives is crucial and willingnes to working together closely between GGGI and PMR is important to ensure that both studies are complementary to each other.

**2. USAID Indonesia Clean Energy Development II (ICED II) Program on Energy Sector**

**Developments**

ICED II project began in 2015 and is the second phase of the United States Agency for International Development (USAID) clean energy program in Indonesia. ICED II works with national and regional government agencies, the national utility (PLN), private sector project developers and suppliers, banks and financial institutions, and other stakeholders in opening the market for renewable energy projects and technologies in Indonesia. ICED II is supporting MEMR and developing a study on benchmarking of fossil fuel power plants and working closely with GGGI and PMR to ensure that both studies are complementary to each other.

**Challenges:**
As each program has its own methodology(ies) and TORs, it is sometimes hard to accommodate necessary changes found during the course of activities.

**Lessons learned:**
Stakeholders, particularly the beneficiary, should be clear about what they want to achieve from the support. Therefore, risk of duplication/overlapping and bias can be minimized.

Both examples proves that collaboration among initiatives could work - with strong leaderships, clear objectives, mutual understanding, and open discussions.

**Stakeholder engagement related to the Grant's activities:**

**Developments**:

Stakeholders were engaged through various means.

**At the 1st level**, engagement managed through the establishment of Project Steering Committee (SC) and 3 technical working groups (WGs). The memberships of the SC and WGs consists of representatives from **relevant line ministries** (CMEA, Bappenas, Min. of Finance, MEMR, MOI, MoEF, etc.), and also from **relevant private sectors** (industry and industry associations).
Engagement at 2nd level, were managed through various training workshops and capacity building program, were **wider audience from government and private sectors** (in energy and industry) were involved in the disseminations, trainings and knowledge sharing activities.
Engagement at 3rd level, were managed through seminars and public discussions workshops at national level – **involving general public** (including non-energy private sectors, civil societies, NGOs, donors, academia, etc.). During the project, there were 6 events at national level were held jointly with ministries – on the topics of MRV and MBI to scaling up national mitigation actions – as well as engaging to international stakeholders through several event during UNFCCC COP meetings.

Various tools and media were also developed to communicate and disseminate the PMR programs, namely:

- Briefing Papers / Policy Papers, Technical Notes.
- Website (www.pmr-indonesia.org)
- Newsletter, brochures, infopack, books.
- Multimedia presentation materials.
- Etc.

**Challenges:**

**Inter-ministerial Dialogues**

Most of the works in PMR requires strong support and involvement from relevant institutions/ministries. To get all stakeholders into a dialogue and come to an agreement is the main challenge. This is a multi-stakeholders' process which requires intensive consultations and dialogues – which potentially could delay program implementation.

*To mitigate this risk, the project includes several approaches. During the early implementation, consultations were organized with key stakeholders to increase their understanding of the project and establish networks of collaboration. Once implementation of the project begins, key stakeholders meet on a regular basis so that they are aware of the progress of the project and contribute to the project. The technical working group were established to facilitate open and transparent inter-ministerial dialogues. Under effective and strong leadership (of CMEA), this arrangement is a good set-up to build consensus/agreement among institutions involved.*

**Change in Government staffs or structure**

There is a risk is that changes in government staffs/structure could result in a change in leadership among the key government bodies, with implications for the loss of institutional memory. Within the last twelve months, there has been changes of staffs (heads of technical or administrative departments) atMoEF, MEMR, and MoI.

*To mitigate this risk, capacity building activities were conducted through series of training involving key individuals from relevant institutions. Knowledge preservation also carried-out through development of PMR project database within the PMR Indonesia website, accessible to all stakeholders. The project also undertook targeted awareness-raising activities to secure high-level commitment from key decision-makers and foster a sufficient number of project champions to sustain project outcomes following project completion.*

**Managing Political Risks**

Perhaps the most important risks to the project are sustainability/replicability and coordination. There is a risk that results produced by project will not be sustained beyond the project lifetime. There is also a risk that project results will not be scaled up. This risk is largely due to political commitment to apply policy reforms. Given that these results emerged through external financing and support, key project results must be sufficiently institutionalized if the larger outcomes are to be sustainable.

*For this reason, the project always engaging stakeholders during all stages of the project implementation phase which may strengthen the Government's commitment of the results and recommendations, and therefore make it more likely that the Government will support the approval of results and recommendations for post-project implementation. Project will take efforts to*

*mainstreaming the PMR program to overall national strategies and plans.*

**Lessons learned:**

***Strong government leadership and continuous engagement is important*** in the managing the conflicting priorities and interests of each institution/ministry. The project is responsible to facilitate the dialogues process to be constructive and point towards achievement of planned (targeted) output. Additionally, the project must select activities to strengthen institutional mechanisms for improved coordination and collaboration. These include negotiating best consultative processes and memoranda of understanding.

***Champions (key-individuals) within each institution needs to be supported/encouraged*** to anticipate changes of leadership in the key government bodies, to preserve and retain the institutional memory.

**Other issues related to the Grant's activities:**

**Developments:**

n/a

**Challenges:**

n/a

**Lessons learned:**

n/a

*Please describe any developments, challenges and lessons learned regarding any other issue related to the achievement of Grant's objectives and the implementation of the Grant's activities.*

## 5. ADDITIONAL INFORMATION

*In this Section, please provide any additional information that may be relevant for the achievement of the Grant's objectives and/or the implementation of the Grant's activities. Please also provide any relevant information related to carbon pricing and the use of market-based instruments for climate change mitigation.*

n/a