**United Nations Development Programme** 



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Jakarta, 6 June 2017

## <u>Amendment-1 to RFP</u> RFP/UNDP/PMR/010/2017 Development of Profile of Greenhouse Gas Emissions from the Indonesia's Power and Industry Sectors

1. Refer to the "Instructions to Proposers – DATA SHEET " DS No. 25 Document Data Sheet, it is amended with detail as follow:

25	E.29.2 E.29.3 F.34	Evaluation method to be used in selecting the most responsive Proposal	<ul> <li>Lowest financial offer of technically qualified Proposals</li> <li>Combined Scoring Method, using the 70%-30% distribution for technical and financial proposals, respectively</li> <li>Combined Scoring Method, using 60%-40% distribution for technical and financial proposals, respectively</li> </ul>
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## Amended to

25	E.29.2 E.29.3 F.34	Evaluation method to be used in selecting the most responsive Proposal	<ul> <li>Lowest financial offer of technically qualified Proposals</li> <li>Combined Scoring Method, using the 70%-30% distribution for technical and financial proposals, respectively</li> <li>Combined Scoring Method, using 60%-40% distribution for technical and financial proposals, respectively</li> </ul>
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2. Refer to the "Instructions to Proposers – DATA SHEET " DS No. 30 Document Data Sheet, it is amended with detail as follow:

30	C.15.2	Expected duration of contract (Target Commencement Date	7 months Target Commencement date : August 2017
		and Completion Date)	Completion Date : March 2018

### Amended to

⊢				
	30	C.15.2	Expected duration of contract (Target Commencement Date and Completion Date)	8 months Target Commencement date : August 2017 Completion Date : March 2018

3. Additional Annex's Section 3: Terms of Reference (TOR)

LIST OF ANNEXES

ANNEX 1. TIMELINE

ANNEX 2. LIST OF EXPECTED MINIMUM NUMBER OF ACTIVITIES (WORKSHOP, SEMINAR, FGD, CONFERENCE OR SIMILAR)

ANNEX 3. DETAILS OF WORK AREAS AND DELIVERABLES

ANNEX 4. SCOPE OF INDUSTRIES

#### **POWER SECTOR**

Description	Deliverable	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	March
			M 1	M 2	M 3	M 4	M 5	M 6	M 7	M 8
Sign contract		W4								
Scope of work 1: Initial preparation	I			I	1	L		I	I	
1.1. Initiate and participate in the		]								
kick off meeting with power working	a. Minutes of									
group of PMR to discuss the detail	kick off meeting									
tasks:			W1							
1.2. Facilitate broad stakeholder									-	
consultations with national and local	b. Minutes of									
government entities as well as the	meetings									
private sector as needed;			W1,2							
1.3. Identify the readiness from	c. Report of the									
power sector in relation to GHG	readiness from									
emission calculation and inventory,	power sector in									
including data needed within the	relation to GHG									
scope of this TOR, existing regulatory	emission									
framework(s) in power sector,	calculation and									
existing initiatives, and supporting	inventory		W1,2							
activities. The team of consultants										

are expected to also conduct desk study to compile already available information and data from existing research, studies, audits, which are already conducted							
1.4. Based on this TOR, submit detailed work plan within 4 weeks of the contract commencement date;	d. Detailed work plan		W3				
1.5. Update and revise the work plan based on DJK ESDM and UNDP comments.	e. Improved work plan		W4				
Scope of work 2: Prepare overview o	f Indonesia's power se	ctor	-				
2.1 Summarize the national status quo of the climate change policy in general, and regulatory frameworks supporting the climate change mitigation within power sector in particular	a. Report on the national status quo of the climate change policy in general, and regulatory frameworks supporting the climate change mitigation within power sector in particular		W4	W1			

2.2 Summarize the status of the power sector in Indonesia including total output and production, revenues and share of GDP, and role of power sector in overall economy. The consultant shall also portrait the status of electricity generation, transmission and distribution	b. Report on the status of power sector in Indonesia.			W2				
2.3 Collate information about the status of power plants in Indonesia according to the following categories, including but not limited to source of energy, technologies, power plants efficiency, and power plants age. Consultant shall identify the significant energy uses or significant emissions sources.	c. Report on the status of power plants in Indonesia.			w3,4				
Scope of work 3. Provide and develop	GHG emissions baseli	ine for the	e Indones	ia's power	sector			
<ul> <li>3.1. Provide data and information concerning GHG emission level and sources by type of technology in the period of 2000 - 2015 (including elaboration of approaches/methodology used for estimating GHG emissions level).</li> <li>3.2. Provide data and information</li> </ul>	<ul> <li>a. Report on overview and analysis of Indonesia's power sector emissions</li> <li>b. Report on</li> </ul>				W1 & w2			
related to existing national baseline	overview of							

emissions scenario of the Indonesia's power sector developed by GOI.	existing baseline scenario.						
3.3. Review baseline emission factors of electricity grids including the methodology used and develop and	c. Review report on baseline emission factor of electricity grid.		W3,4				
pilot a methodology to calculate national electricity emissions factor. Consultant should calculate the national electricity emissions factor based on the most recent data provided by the GOI.	d. Report on development and piloting a methodology to calculate national electricity emissions factor.		W4				
3.4. Develop specific emissions baseline by type of technology using base year 2010.	e. Developed specific emissions baseline by type of technology			W1,2			
3.5. Conduct FGDs, workshops, site visits (if needed) to review, calculate, determine baseline emissions	f. Report of conducted events		W1,2,3,4	W1,2			
Scope of work 4: Estimate potential o	f emission reductions	and abatement co	st of mitigation action	าร	•	 	
4.1. Identify potential of GHG mitigation actions in power sector by	a. Minutes of workshop.			W3			

2030 including NRE, fuel switching, and low carbon technology and energy efficiency based on stakeholder consultation. The consultant shall determine the cost of mitigation actions. Consultant shall ensure that the newest and valid data and information are used by employing various methodologies	b. Report of field survey or rapid assessments conducted, including photo and all data and information identified		W4	W1,2,3,4		
including desk studies, in depth interview, site visits and energy rapid assessments, and FGDs. It is expected that consultant to conduct energy rapid assessment in, at least, 10 selected power plants which represent categories as mentioned in task 2.2.	c. Report on potential mitigation actions in power sector by 2030.		W4			
4.2. Develop a comprehensive marginal abatement cost curve (MACC) which reflect the abatement potentials and cost for different mitigation options. The Consultant shall use robust and internationally recognized methodology to develop the MACC. All calculation data and assumptions used should be clearly described and include in the report. The consultant shall develop an	d. A comprehensive abatement cost curve, including the web based version.				W1,2	

interactive web based version of the MACC.						
4.3. Develop a guideline to update the MACC. Consultant shall conduct socialization, and training to the power stakeholder on the general information of MACC.	e. A guideline to update the MACC			W2		
Scope of work 5: Final report						
5.1. Submit draft final report prior to stakeholder meeting to discuss draft report containing all report produced in scope of work 1 and 4.	a. Draft final report				W1	
5.2. Conduct stakeholder meeting to discuss draft report for inputs and comments.	b. Minutes of stakeholder meeting to discuss draft report				W2	
5.3. Finalize report based on all inputs and comments gathered and submit the report in English and Indonesian. The consultant shall submit a file storage (i.e. USB or CD) containing soft copy of editable version of final report, all presentation, photos and video, all data and calculation, and simulation result (if available).	c. Final report				W4	

5.4.	Conduct	dissemination	d.	Minutes
worksh	op, including	training related	of dissem	nination
MACC.			worksho	р

#### **INDUSTRY SECTOR**

Description	Deliverable	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	March
		M 1		M 2	M 3	M 4	M 5	M 6	M 7	M 8
Task 1: Initial preparation										
						·				
1.1. Facilitate the kick off meeting(s) with industry working group of PMR to discuss the detail tasks	Minutes of kick off meeting		WS 1.3							
1.2. Participate and initiate meetings with other										
ministries, industries, industrial associations, and other relevant stakeholders)	Minutes of meeting	WS 1.1, 1								
1.3. Identify and summarize the GHG emission characteristics in industry sectors in general and in 8 sub-sectors in particular. This includes the source	Minutes of meeting									
of emissions from each sub-sectors, including direct and indirect emission from energy, IPPU, and waste										

1.4. Identify the readiness from the 8 sub-sectors in relation to GHG emission calculation and inventory, including data needed within the scope of this TOR	Review report and gap analysis report					
1.5. Based on this TOR, initial meeting results and initial desk studies; submit detailed work plan and scope of study within 4 weeks of the contract commencement date	Detailed work plan			 		
1.6. Update and revise the work plan based on comments and inputs from industry working group and UNDP.	Improved work plan					
Task 2: Develop overview of industry sector						
2.1 Summarize the national status quo of the climate change policy in general, and regulatory frameworks supporting the climate change mitigation within industry sector in particular;	Review report of national status quo and current emission from the industry sector					
2.2 Capture the status of 8 industry sub-sectors in Indonesia including its contribution to GDP, the industrial population, and its role to national	Draft report			 		

<ul> <li>2.3. Based on the scope / constraints identified; collect and compile the data required within the scope of this TOR from 8 industry sub-sectors, including but not limited to production capacity, type and technology in each sub-sector.</li> <li>Depending on the readiness in each of its subsectors, some activities within the scope of this 2.3 can be carried out simultaneously with the activities of 3.4</li> <li>Task 3: Provide and develop baseline of GHG emission</li> </ul>	Minutes of meetings, Draft report ions from energy, IPPU, a	and was	WS 2.1, WS 2.2, ste relat	WS 2.3, ted activi	site visits ties in ind	lustry se	ector		
3.1. Identify GHG emissions and sources from each type of industry in 8 prioritized industry sub									
sectors and carried out key sources category									
analysis. The consultant shall use (and evaluate)									
available national GHG emission data as a basis									
(including elaboration of approaches/methodology									
used for estimating GHG emissions level).	presentation material,								
3.2. Provide an overview of existing baseline	Report on the							 	
emissions scenario for the sub sectors who already	haseline scenario for								
have baseline calculation, and develop (new)	8 sub-sectors								
baseline scenarios for each of industry sub sectors									
within the 8 sub-sectors who do not have any									
initial calculation nor scenario. It should be noted									
that the baseline should cover baseline emission (t									
CO2e/year) and specific emission (tC O2e/t									
product).									

<ul> <li>3.3. Develop specific emissions baseline by type of industries using base year 2010 (identified in point 3.1).</li> <li>3.4 Conduct FGDs, workshops, site visits for each sub sector (for sampling purposes) to review, calculate, determine baseline emissions of each of type of industry in each of 8 sub sectors.</li> </ul>		 	WS 3.4 , WS 3.5	WS 3.6, WS 3.1	WS 3.2, WS 3.3			
Task 4: Estimate notential of emission reductions a	nd develop scoparios for	atomo	s nt cost fo	ite visits	8 sub-se	octors of	inductor	
Task 4. Estimate potential of emission reductions a	nu develop scenarios for	Jateme		i each ui	0 500-50		muustiy	
4.1. Identify possible mitigation actions and prioritization of mitigation actions based on stakeholder consultation.	Draft report			WS 3.1	l, WS			
4.2. Provide data and information concerning abatement cost curves in industry that have been published;	· · · · · · · · · · · · · · · · · ·	 		3.2, W	S 3.3			 
4.3 Identify the appropriate methodology / tools for development of cost and impact scenarios. The team of consultant shall use internationally recognized methodology;	<ul> <li>Meeting reports</li> <li>Report of GHG profiling in industry sector</li> </ul>							 

4.4 Develop a comprehensive Marginal Abatement Cost Curve (MACC) based on the identified GHG emission reduction (as identified in point 4.1) and the different concrete mitigation actions (measures-based). The abatement opportunities shall be in-depth analyzed and developed separately based on the sub-sectors, including conclusions and recommendations. All calculation data and assumptions used should be clearly described and include in the report;	• Draft report on a comprehensive Abatement Cost Curve (measures- based) for 8 sub- sectors of industry		WS4.1, WS 4.2,	WS 4.3		
Task 5. Develop a comprehensive final report						
5.1 Submit draft final report prior to stakeholder meeting to discuss draft report containing all report produced in scope of work 1 to 4.	Draft final reports					
5.2 Conduct stakeholder meeting to discuss draft report for inputs and comments.	Minutes of meeting	 			WS 5.1	 
5.3 Finalize report based on all inputs and comments gathered and submit the report in English and Indonesian. The consultant shall submit a file storage (i.e. USB or CD) containing soft copy of editable version of final report, all presentation, photos and video, all data and calculation, and simulation result (if available)	<ul> <li>Final report of GHG profiling in industry sector</li> <li>Final report on a comprehensive Abatement Cost Curve (measures- based) for 8 sub- sectors of industry, including conclusions</li> </ul>					

	and recommendations					
5.4 Conduct a training and socialization to Gol, industries and associations on the general information of MACC and the result of the study.	<ul> <li>Training module</li> <li>Power point presentation, meeting material</li> </ul>	 	 		 ws	5.2

Note: All schedule of activities are subject to discussion

WS (Workshop): Refer to annex 2. Example: WS 5.2 in the table refers to dissemination workshop in annex 2.

# ANNEX 2. LIST OF EXPECTED MINIMUM NUMBER OF ACTIVITIES (WORKSHOP, SEMINAR, FGD, CONFERENCE OR SIMILAR)

#### **POWER SECTOR**

No	ltem	No of days	Pax	Location	Agenda
	Task 1: Initial preparation				
1.1	Kick off meeting	1	15	Jakarta	Kick off meeting with key stakeholders
1.2	Stakeholders consultation meeting	3	40	Bogor	Identify readiness, perform data gap analysis, and collecting data
1.3	Meeting to present work plan	1	50	Jakarta	Present draft workplan for inputs and comments
	Task 2: Prepare overview of Indonesia's power sector				
2.1	FGD in Jakarta	1	20	Jakarta	Collect data and information
	Task 3: Provide and develop				
	GHG emissions baseline				
3.1	Workshop	3	50	Bogor	Develop specific emissions baseline
	I ask4: Estimate potential of				
	emission reductions and				
	abatement cost of mitigation		10	-	
4.1	Workshop to identify potential of	2	40	Bogor	Identify and discuss the potential
4.2	emission reduction from NRE	2	40	Peger	emissions reduction from INRE
4.Z	aming ion reduction from clean cool	2	40	БОДОГ	aming and discuss the potential
	technology and fuel switching				emissions reduction nom CCT and rue
43	Ranid energy assessment				Switching
4.0					
	These just indicative locations				
	Three coal power plants in Paiton	tbd	N/A	Paiton	Rapid energy assessment to identify
	area				potential emission reduction
	Two coal power plant in Suralaya	tbd	N/A	Suralaya	Rapid energy assessment to identify
	area			-	potential emission reduction
	Two gas power plants in Tanjung	tbd	N/A	Jakarta	Rapid energy assessment to identify
	Priok area				potential emission reduction
	One diesel power plant in Cikarang	tbd	N/A	Cikarang	Rapid energy assessment to identify
	area				potential emission reduction
	One coal power plant in Cilacap	tbd	N/A	Cilacap	Rapid energy assessment to identify
	area				potential emission reduction
	One coal power plant in Tangerang	tbd	N/A	Tangerang	Rapid energy assessment to identify
	area				potential emission reduction
4 4	Ctokeholder moeting to discuss		50	Deger	Ctokeholden meeting to discuss durft
4.4	draft report		50	Dogor	Stakenolder meeting to discuss draft
15		2	60	Thd	Procenting final result of the report of
4.5	CISSELLINGUOLI WOLKSHOP	3	00		GHG profile, training on MACC

#### **INDUSTRY SECTOR**

No	Item	No of days	No of Pax	Location	Agenda
SC 1	Preparation				
1,1	Introduction workshop 1	3	50	Bogor	Identify readiness, detailing scope of activities &
1,2	Introduction workshop 2	3	50	Bogor	workplan
1,3	Kick off meeting (to be separated from power se	2	80	Bogor	Socialize activities, presentation of final workplan
SC 2	Develop overview of industry sector				
				Banten/serang/	
2,1	Workshop 1 (chemical, ceramic, glass)	2	60	cilegon	collect and compile the data required
2,2	Workshop 2 (textile, cement, p&p)	2	60	bandung	collect and compile the data required
2,3	Workshop 3 (food & beverage, steel)	2	60	Surabaya	collect and compile the data required
2,4	Site visit sub sector A	3	10		data sampling (if needed)
2,5	Site visit sub sector B,C,	3	10		data sampling (if needed)
SC 3	emissions from energy, IPPU, and waste related activities in industry sector				
3,1	Workshop 1 (chemical, textile)	2	60	Semarang	for developing baseline
3,2	Workshop 2 (ceramic, glass, steel)	2	60	Surabaya	for developing baseline
3,3	Workshop 3 (food and beverage)	2	60	Yogya	for developing baseline
3,4	Workshop 4 (cement)	3	40	Denpasar	for reviewing baseline
3,5	Workshop 5 (pulp & paper)	3	60	Parapat/Medan	for reviewing baseline
3,6	Workshop 6 (fertilizer)	3	40	Palembang	for reviewing baseline
3,7	Site visits				
	Estimate potential of emission reductions and				
SC 4	develop scenarios for GHG abatement cost for				
	each of 8 sub-sectors of industry				
4,1	Workshop 1 (same week with 3.1)	1	60		to further identify & calculate emission reduction
4,2	Workshop 2 (same week with 3.2)	1	60		to further identify & calculate emission reduction
4,3	Workshop 3 (same week with 3.3)	1	60		to further identify & calculate emission reduction
SC 5	Develop a comprehensive final report				
5.1	Finalization workshop (to be separated from power sector	2	80	Bogor	finalizing draft reports
5.2	Dissemination workshop	3	80		presenting final results from the report of GHG profiling, training related with MACC

<u>Note</u>: The table represents <u>minimum</u> scenario in relation to number of activities and the grouping of sub-sectors within each scope of work. The team of consultants is expected to design and estimate the grouping or the number of stakeholder consultations (i.e workshops) and site visits needed in each scope of work, by referring to the table. If it is feasible, two workshops can also be conducted in parallel (one location at one time, for instance workshop 1 in 2.1 combined with workshop 2 in 2.2).

The site visits, however, shall only be conducted on the sub-sectors which are considered necessary to conduct field visits for the purposes of sampling, data collection and/or data confirmation.

#### ANNEX 3. DETAILS OF WORK AREAS AND DELIVERABLES

#### **POWER SECTOR**

Scope of work 1: Initial preparation		
1.1. Initiate and participate in the kick off meeting with power working group of PMR to discuss the detail tasks:	a. Minutes of kick off meeting	04-Aug-17
1.2. Facilitate broad stakeholder consultations with national and local government entities as well as the private sector as needed;	b. Minutes of meetings	
1.3. Identify the readiness from power sector in relation to GHG emission calculation and inventory, including data needed within the scope of this TOR, existing regulatory framework(s) in power sector, existing initiatives, and supporting activities. The team of consultants are expected to also conduct desk study to compile already available information and data from existing research, studies, audits, which are already conducted	c. Report of the readiness from power sector in relation to GHG emission calculation and inventory	11-Aug-17
1.4. Based on this TOR, submit detailed work plan within 4 weeks of the contract commencement date;	d. Detailed work plan	18-Aug-17
1.5. Update and revise the work plan based on DJK ESDM and UNDP comments.	e. Improved work plan	30-Aug-17
Scope of work 2: Prepare overview of Indonesia's	power sector	

2.1 Summarize the national status quo of the climate change policy in general, and regulatory frameworks supporting the climate change mitigation within power sector in particular	a. Report on the national status quo of the climate change policy in general, and regulatory frameworks supporting the climate change mitigation within power sector in particular						
2.2 Summarize the status of the power sector in Indonesia including total output and production, revenues and share of GDP, and role of power sector in overall economy. The consultant shall also portrait the status of electricity generation, transmission and distribution	b. Report on the status of power sector in Indonesia.	22-Sep-17					
2.3 Collate information about the status of power plants in Indonesia according to the following categories, including but not limited to source of energy, technologies, power plants efficiency, and power plants age. Consultant shall identify the significant energy uses or significant emissions sources.	c. Report on the status of power plants in Indonesia.						
Scope of work 3. Provide and develop GHG emissions baseline for the Indonesia's power sector.							
3.1. Provide data and information concerning GHG emission level and sources by type of technology in the period of 2000 - 2015 (including elaboration of approaches/methodology used for estimating GHG emissions level).	a. Report on overview and analysis of Indonesia's power sector emissions	10-Nov-17					
3.2. Provide data and information related to existing national baseline emissions scenario of the Indonesia's power sector developed by GOI.	b. Report on overview of existing baseline scenario.						
3.3. Review baseline emission factors of electricity grids including the methodology used and develop and pilot a methodology to calculate	c. Review report on baseline emission factor of electricity grid.						
national electricity emissions factor. Consultant should calculate the national electricity emissions factor based on the most recent data provided by the GOI.	d. Report on development and piloting a methodology to calculate national electricity emissions factor.	24-Nov-17					
3.4. Develop specific emissions baseline by type of technology using base year 2010.	e. Developed specific emissions baseline by type of technology	30-Nov-17					

3.5. Conduct FGDs, workshops, site visits (if		
needed) to review, calculate, determine baseline	f. Report of conducted events	
emissions		
Scope of work 4: Estimate potential of emission re	ductions and abatement cost of mit	igation actions
4.1. Identify potential of GHG mitigation actions	a. Minutes of workshop.	
In power sector by 2030 including INRE, fuel	b. Report of field survey or	
switching, and low carbon technology and energy	rapid assessments conducted,	
consultant shall determine the cost of mitigation	including photo and all data and	
actions Consultant shall ensure that the newest	information identified	
and valid data and information are used by		02-Ian-18
employing various methodologies including desk		02 3411 10
studies, in depth interview, site visits and energy	c Penart on potential	
rapid assessments, and FGDs. It is expected that	mitigation actions in nower sector	
consultant to conduct energy rapid assessment	hy 2030	
in, at least, 10 selected power plants which	Sy 2000.	
represent categories as mentioned in task 2.2.		
4.2. Develop a comprehensive marginal		
abatement cost curve (MACC) which reflect the		
mitigation options. The Consultant shall use		
robust and internationally recognized	d. A comprehensive abatement	
methodology to develop the MACC All	cost curve, including the web	
calculation data and assumptions used should be	based version.	
clearly described and include in the report. The		12-Jan-18
consultant shall develop an interactive web		
based version of the MACC.		
4.3. Develop a guideline to update the MACC.		
Consultant shall conduct socialization, and	e. A guideline to update the	
training to the power stakeholder on the general	MACC	
Information of MACC.		
Scope of work 5: Final report		
5.1. Submit draft final report prior to stakeholder		
meeting to discuss draft report containing all	a. Draft final report	30-Jan-2018
report produced in scope of work 1 and 4.		
<b>F.</b> 2. Conduct statishick address section to discuss the fi	h Minutes of stalishalder	
5.2. Conduct stakenoider meeting to discuss draft	b. Winutes of stakeholder	14-Feb-18

5.3. Finalize report based on all inputs and comments gathered and submit the report in English and Indonesian. The consultant shall submit a file storage (i.e. USB or CD) containing soft copy of editable version of final report, all presentation, photos and video, all data and calculation, and simulation result (if available).	c. Final report	28-Feb-18
5.4. Conduct dissemination workshop, including training related MACC.	d. Minutes of dissemination workshop	09-Mar-18

#### **INDUSTRY SECTOR**

Scope of work 1: Initial preparation				
Scope of work	Deliverables/Output	Due date		
1.1 Facilitate the kick off meeting(s) with industry working group of PMR to discuss the detail tasks	<ul><li> Presentation material</li><li> Minutes of kick off meeting</li></ul>	Week 4, August 2017		
1.2 Participate and initiate meetings with other relevant stakeholders as needed (e.g. other line ministries, industries, industrial associations, and other relevant stakeholders)	Minutes of meetings	Week 1, 2, August 2017		

<ul> <li>1.3 Identify and summarize the GHG emission characteristics in industry sectors in general and in 8 sub-sectors in particular. This includes the source of emissions from each subsectors, including direct and indirect emission from energy, IPPU, and waste</li> <li>1.4 Identify the readiness from the 8 sub-sectors in relation to GHG emission calculation and inventory, including data needed within the scope of this TOP.</li> </ul>	Draft report	Week 3, August 2017 Week 3, August 2017	
<ul> <li>1.5 Based on this TOR, initial meeting results and initial desk studies; submit detailed work plan and scope of study within 4 weeks of the contract commencement date</li> </ul>	Detailed work plan	21 August 2017	
1.6 Update and revise the work plan based on comments and inputs from industry working group and UNDP.	Improved work plan	30 August 2017	
Scope of work 2: Develop overview of industry see	tor	1	
Scope of work	Deliverables/Output	Due date	
2.1 Summarize the national status quo of the climate change policy in general, and regulatory frameworks supporting the climate change mitigation within industry	Review report of national status quo and current emission from the industry sector	8 September 2017	
<ul> <li>2.2 Capture the status of 8 industry sub-sectors in Indonesia including its contribution to GDP, the industrial population, and its role to national economy.</li> </ul>	Draft report	15 September 2017	
2.3 Based on the scope / constraints identified; collect and compile the data required within the scope of this TOR from 8 industry sub- sectors, including but not limited to production capacity, type and technology in each sub-sector. Depending on the readiness in each of its sub-sectors, some activities within the scope of this 2.3 can be carried out simultaneously with the activities of 3.4	<ul> <li>Minutes of meetings</li> <li>Draft report</li> </ul>	30 September 2017	
Scope of work 3: Provide and develop baseline of GHG emissions from energy, IPPU, and waste related activities in industry sector			
Scope of work	Deliverables/Output	Due date	
3.1 Identify GHG emissions and sources from each type of industry in 8 prioritized industry sub sectors and carried out key sources category analysis. The consultant shall use (and evaluate) available national GHG emission data as a basis (including elaboration of approaches/methodology used for estimating GHG emissions level)		6 October 2017	

<ul> <li>3.2 Provide an overview of existing baseline emissions scenario for the sub sectors who already have baseline calculation, and develop (new) baseline scenarios for each of industry sub sectors within the 8 sub-sectors who do not have any initial calculation nor scenario. It should be noted that the baseline should cover baseline emission (t CO2e/year) and specific emission (tC O2e/t product).</li> <li>3.3 Develop specific emissions baseline by type of industries using base year 2010 (identified in point 3.1).</li> </ul>	Presentation material, minutes of meeting, Report on baseline of GHG emissions from energy, IPPU, and waste related activities in each of 8 sub-sectors	30 November 2017 30 November 2017 20 November
sub sector (for sampling purposes) to review, calculate, determine baseline emissions of each of type of industry in each of 8 sub sectors. Scope of work 4: Estimate potential of emission r	eductions and develop scenarios fo	2017 r GHG abatement
cost for each of 8 sub-sectors of industry		
Scope of work	Deliverables/Output	Due date
<ul> <li>4.1 Identify possible mitigation actions and prioritization of mitigation actions based on stakeholder consultation.</li> <li>4.2 Provide data and information concerning abatement cost surves in inductry that have</li> </ul>		15 December 2017 15 December
been published;	Meeting reports	2017
<ul> <li>4.3 Identify the appropriate methodology / tools for development of cost and impact scenarios. The team of consultant shall use internationally recognized methodology;</li> </ul>	<ul> <li>Draft Final report of GHG profiling in industry sector</li> <li>Draft Final report on a comprehensive Abatement Cost Curve (measures-based)</li> </ul>	15 December 2017
4.4 Develop a comprehensive Marginal Abatement Cost Curve (MACC) based on the identified GHG emission reduction (as identified in point 4.1) and the different concrete mitigation actions (measures- based). The abatement opportunities shall be in-depth analyzed and developed separately based on the sub-sectors, including conclusions and recommendations. All calculation data and assumptions used should be clearly described and include in the report;	for 8 sub-sectors of industry, including conclusions and recommendations	15 January 2017
Scope of work 5.		
4.1 Submit draft final report prior to stakeholder meeting to discuss draft report containing all report produced in scope of work 1 to 4.	<ul> <li>Draft final report of GHG profiling in industry sector</li> <li>Draft final report on a comprehensive Abatement Cost Curve (measures-based) for 8 sub-sectors of industry,</li> </ul>	15 January 2018

4.2 Conduct stakeholder meeting to discuss draft report for inputs and comments.	including conclusions and recommendations Minutes of meeting	Week 3 January – Week 1 February 2018
4.3 Finalize report based on all inputs and comments gathered and submit the report in English and Indonesian. The consultant shall submit a file storage (i.e. USB or CD) containing soft copy of editable version of final report, all presentation, photos and video, all data and calculation, and simulation result (if available).	<ul> <li>Final report of GHG profiling in industry sector</li> <li>Final report on a comprehensive Abatement Cost Curve (measures-based) for 8 sub-sectors of industry, including conclusions and recommendations</li> </ul>	9 <sup>th</sup> March 2018
4.4 Conduct a training and socialization to Gol, industries and associations on the general information of MACC and the result of the study.	<ul> <li>Training module</li> <li>Power point presentation, meeting material</li> </ul>	Week 1 march 2018

#### **ANNEX 4. SCOPE OF INDUSTRIES**

No	Sub sector	Industries (to choose >6000 TOE)	Note

1	Cement	Cement	Baseline review
2	2 Ceramic and glass	Ceramic	Baseline development
		Glass	Baseline development
3	Fertilizer	Ammonia and Urea	Baseline review
		Nitrit Acid	
		Calcium Carbide	
		Carbon Black	
4	Chemical	Ethylene Dichloride	Baseline development
		Ethylene Oxide	
		Ethylene	
		VCM	
		Other chemical industries	
5		Integrated P&P	
	Pulp & paper	Pulp	
		Pulp & Tissue	Baseline review
		Tissue & diapers	
		Paper	
	Food and		
	beverage.		
6		Fish Processing	
		Meat & Poultry	
	Food*	Starch Production	
		Sugar (including refinery)	Baseline development
		Vegetable Oils	
	Beverage*	Beer & Malt	
		Coffee	
		Dairy Products	

		Vegetables, Fruits & juices Wine & Vinegar	
7	Textile	Polyester	Baseline development
		Other textile industries	Baseline development
		Steel	Baseline development
8	Steel	Iron	Baseline development
		Aluminum	Baseline development

\*Currently in discussion with Ministry of Industry

<u>Note</u>: The table only represents minimum (and considered mandatory) number of industry types in each of sub sectors to be covered in the GHG emission profiling.