



Embassy of Sweden

20/11/2020
UM2018/25832/PHNO

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Nick Beresford
Resident Representative
UNDP Cambodia

**Amendment NO. 02 to the Third-Party Cost Sharing Agreement
of the Project "Building an Enabling Environment for Sustainable
Development (BESD) contribution no. 12252"**

Dear Mr. Beresford,

With reference to the finance agreement between Sweden and UNDP regarding the contribution to the implementation of the Building an Enabling Environment for Sustainable Development (BESD) project and the discussion with you and your team, I'm sending you two signed copies of an agreement amendment. The Amendment will increase Sweden's financial contribution to the project and allow a continuation of activities until June 30th next year. The final payment will be released as soon as we have received a countersigned copy of the amendment and a disbursement request.

Best regards,

A handwritten signature in blue ink, appearing to read 'S. Hurtig'.

Samuel Hurtig

Head of Development Cooperation

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**AMENDMENT No. 02 TO THE THIRD-PARTY COST-SHARING AGREEMENT
BETWEEN SWEDEN, REPRESENTED BY THE SWEDISH INTERNATIONAL
DEVELOPMENT COOPERATION AGENCY - SIDA (THE DONOR) AND
THE UNITED NATIONS DEVELOPMENT PROGRAMME (UNDP)**

Reference is made to the Agreement entered into on 24 July 2018, Donor Project Number 12252, between the UNITED NATIONS DEVELOPMENT PROGRAMME (“UNDP”), and SWEDEN, REPRESENTED BY THE SWEDISH INTERNATIONAL DEVELOPMENT COOPERATION AGENCY – Sida (“the Donor”), and together with UNDP, the “Parties”, as previously amended on 1 October 2020 (hereinafter referred to as the “Agreement”).

WHEREAS The Agreement provides that any modification thereto shall require an amendment in writing between the Parties, duly signed by the authorized representatives of UNDP and the Donor.

WHEREAS UNDP has requested and the Donor has agreed to amend the Agreement for the Project **Title:** “Towards Environmental Sustainability in Cambodia”, which was changed to “Building an Enabling Environment for Sustainable Development (BESD)” following the decision of the first board meeting in 2019 (Project Number: 00085640, Donor Project Number: 12252). Through the Amendment, the Donor wishes to provide additional contribution to the project to support the implementation of the planned activities from January to June 2021. (Annex 1: BESD Extension Concept Note).

NOW THEREFORE, the Parties agree to amend the following articles of the Agreement:

Article I of the Amendment 1: The Contribution:

Instead of:

Subsection (a)

This Article is amended to add that the Donor (Sweden) will contribute the additional funds at the maximum of SEK 4,300,000.

The agreed amount of 16,500,000 SEK was disbursed in full during 2018 and 2019. The additional amount shall be used in accordance with the Project Document including updated Budget as attached as Annex 1.

The additional funds will be disbursed upon signature of this Amendment followed by a request.

The total maximum amount will thereby be increased up to 20,800,000 SEK.



**Shall now read:
Subsection (a)**

The Donor agrees to contribute the additional funds at the maximum of SEK 5,700,000. Thus, the total maximum amount will thereby be increased up to **SEK 26,500,000.**

Schedule of Payment	Amount
1) Upon signature of the original agreement	SEK 4,000,000 (disbursed)
2) January 2019	SEK 12,500,000 (disbursed)
3) October 2020	SEK 4,300,000 (disbursed)
4) Upon the signature of this Amendment	SEK 5,700,000 (to be disbursed)

The additional funds will be disbursed upon the signature of this Amendment followed by a request.

Except as expressly modified herein in accordance with Article I above, all other terms of the Agreement shall remain unchanged and shall continue in full force and effect.

This Amendment will come into effect as of the date of the last signature hereof by UNDP and the Donor.

IN WITNESS WHEREOF, the undersigned, being duly authorized thereto, have signed the present Amendment in English language in two copies.

For UNDP
Mr. Nick Beresford
Resident Representative

For Sweden, represented by Sida
Mr. Björn Häggmark
Ambassador, Embassy of Sweden to
Cambodia

Signature: 

Date: 23.11.20

Signature: 

Date: 19/11/2020

Annex 1: BESD Extension Concept Note (01 January - 30 June 2021)

Annex 2: Updated Work Plan and Budget 2021





Expected Annual	Key Activities	Timeline		Responsible Party	Chart of account	Fund	Donor	Delop.ID	Account	Modality	Budget Description	Budget Note	Implementer	Schedule of payment		Total budget		
		Q1	Q2											Q1	Q2			
Output 1: CBNRM institutions strengthened and financial resources mobilized for sustainable NRM	Activity 1.1: Expansion and strengthening of CBNRM	X		NCSD	009466	30000	00555	KHM	71600	CA	Travel and Meeting	Field monitoring	NCSD	1 360,00	1 360,00	2 720,00		
		X	X	NCSD	009466	30000	00555	KHM	75700	CA	Training, Workshops & Conference	For 2 times of project board meeting, quarterly meeting and one time for reflection forum workshop	NCSD	2 395,00	13 875,00	16 270,00		
		X	X	NCSD	009466	30000	00555	KHM	71600	CA	Travel and Meeting	1) Conduct assessment meeting with CPA members on the needs of Job/Income; 2) Tour/exchange visits by 5 CPA committee members to Orchid Center, and 3) Community-based tree monitoring	GDLC/MOE	4 000,00	4 000,00	8 000,00		
		X	X	NCSD	009466	30000	00555	KHM	75700	CA	Training, Workshops & Conference	1-Meetings to develop activity plan to implement CPA Mgt Plan; 2) Quarterly meeting to review and motor CPA Mgt Plan; 3) Training of Trainers for skill development, 4) Selecting CPA Members for the vocational training (3 vocational trainings on Making basket, Cooking and Organic Vegetables)	GDLC/MOE	10 000,00	10 000,00	20 000,00		
		X	X	NCSD	009466	30000	00555	KHM	75700	CA	Training, Workshops & Conference	Support to tree planting maintenance at project side	GDLC/MOE	5 000,00	5 000,00	10 000,00		
		X	X	NCSD	009466	30000	00555	KHM	71400	CA	Contractual Services - Individuals	Over head cost for administration and finance assistant	GDLC/MOE	1 500,00	1 750,00	3 250,00		
		X	X	NCSD	009466	30000	00555	KHM	72500	CA	Supplies	Office supplies	GDLC/MOE	200,00	350,00	550,00		
		X	X	NCSD	009466	30000	00555	KHM	74500	CA	Miscellaneous Expenses	Bank changes, cheques	GDLC/MOE	100,00	100,00	200,00		
		X	X	UNDP	009466	30000	00555	KHM	75100	DP	Facilities & Administration (GMS)	GMS	UNDP	1 964,40	2 914,80	4 879,20		
		X	X	UNDP	001981	30000	00555	KHM	61300	DP	Salary & Post Adj Cost-IP Staff	IP staff (P4)-5%	UNDP	2 608,00	2 608,00	5 216,00		
		X	X	UNDP	001981	30000	00555	KHM	71400	DP	Contractual Services - Individuals	NRM specialist (SB5)-10%	UNDP	1 018,00	1 018,00	2 036,00		
		X	X	UNDP	001981	30000	00555	KHM	75100	DP	Facilities & Administration (GMS)	GMS	UNDP	290,08	290,08	580,16		
		Total Activity 1.1:														30 435,48	43 265,88	73 701,36
		Activity 1.2: Operationalization of payment for Ecosystem Services	Activity 1.2: Operationalization of payment for Ecosystem Services	X	X	NCSD	009466	30000	00555	KHM	71300	CA	Local Consultants	National consultants for designing and monitoring PES, fund management, monitoring system, and PES policies	DBD/NCSD	10 000,00	10 000,00	20 000,00
				X	X	NCSD	009466	30000	00555	KHM	71400	CA	Contractual Services - Individuals	Support to contracted staffs (x 1 finance assistant)	DBD/NCSD	1 800,00	1 800,00	3 600,00
X	X			NCSD	009466	30000	00555	KHM	72500	CA	Supplies	Office supplies, COVID supplies	DBD/NCSD	690,00	690,00	1 380,00		
X	X			NCSD	009466	30000	00555	KHM	74200	CA	Audio Visual Print Prod Costs	Printing and designing of PES related fund management, monitoring system, and PES policies	DBD/NCSD	4 000,00	4 000,00	8 000,00		
X	X			NCSD	009466	30000	00555	KHM	75700	CA	Training, Workshops & Conference	Training on PES for Phnom Kulen and Kbal Chhay	DBD/NCSD	10 000,00	15 000,00	25 000,00		
X	X			NCSD	009466	30000	00555	KHM	74500	CA	Miscellaneous Expenses	Bank charge, etc	DBD/NCSD	10,00	10,00	20,00		
X	X			UNDP	009466	30000	00555	KHM	75100	DP	Facilities & Administration (GMS)	GMS	UNDP	2 120,00	2 520,00	4 640,00		
X	X			UNDP	001981	30000	00555	KHM	61300	DP	Salary & Post Adj Cost-IP Staff	IP staff (P4)-5%	UNDP	2 608,00	2 608,00	5 216,00		
X	X			UNDP	001981	30000	00555	KHM	71400	DP	Contractual Services - Individuals	NRM specialist (SB5) - 10%	UNDP	1 018,00	1 018,00	2 036,00		
X	X			UNDP	001981	30000	00555	KHM	75100	DP	Facilities & Administration (GMS)	GMS	UNDP	290,08	290,08	580,16		
Total Activity 1.2:														32 536,08	37 936,08	70 472,16		
Activity 1.3: Development of strategic Communication strategy and information materials	Activity 1.3: Development of strategic Communication strategy and information materials	X	X	UNDP	001981	30000	00555	KHM	71400	DP	Contractual Services - Individuals	NRM specialist (SB5)-10%	UNDP	1 018,00	1 018,00	2 036,00		
		X	X	UNDP	001981	30000	00555	KHM	75100	DP	Facilities & Administration (GMS)	GMS	UNDP	81,44	81,44	162,88		
Total Activity 1.3:														1 099,44	1 099,44	2 198,88		
Activity 1.4: Development of scaling-up strategies including programming and new partnership	Activity 1.4: Development of scaling-up strategies including programming and new partnership	X	X	UNDP	001981	30000	00555	KHM	71400	DP	Contractual Services - Individuals	NRM specialist (SB5)-10%	UNDP	1 018,00	1 018,00	2 036,00		
		X	X	UNDP	001981	30000	00555	KHM	75100	DP	Facilities & Administration (GMS)	GMS	UNDP	81,44	81,44	162,88		
Total Activity 1.4:														1 099,44	1 099,44	2 198,88		
Activity 1.5: Monitoring and evaluation	Activity 1.5: Monitoring and evaluation	X	X	UNDP	001981	30000	00555	KHM	71600	DP	Travel and Meeting	Field monitoring	UNDP	2 000,00	2 000,00	4 000,00		
		X	X	UNDP	001981	30000	00555	KHM	75100	DP	Facilities & Administration (GMS)	GMS	UNDP	160,00	160,00	320,00		
Total Activity 1.5:														2 160,00	2 160,00	4 320,00		
Total Output 1:	Total Output 1													67 330,44	85 560,84	152 891,28		

Expected Annual	Key Activities	Time		Responsible Party	Chart of account				Modality	Budget Description	Budget Note	Implementer	Schedule of payment		Total budget	
		Q1	Q2		Implementing Agent	Fund	Donor	Detp.ID					Account	Q1		Q2
Output 3: Improved access to clean, affordable, and sustainable energy for the rural poor	Activity 3.1: Solar energy for electricity supply and increasing resilience of rural communities	X	X	UNDP	001981	30000	00555	KHM	61300	DP	Salary & Post Adj Cost-IP Staff	IP staff (P6)-5%	UNDP	3 750,00	3 750,00	7 500,00
		X	X	UNDP	001981	30000	00555	KHM	71400	DP	Contractual Services - Individuals	National Energy Officer (SB4)- 20%	UNDP	1 595,00	1 595,00	3 190,00
			X	UNDP	002452	30000	00555	KHM	72100	CA	Contractual Services Companies	Setting the right business model for solar DC micro grid as an off-grid energy solution based on the experience from two pilots	UNDP	5 000,00	5 000,00	10 000,00
		X	X	UNDP	002452	30000	00555	KHM	75100	DP	Facilities & Administration (GMS)	GMS	UNDP	827,60	827,60	1 655,20
	Total Activity 3.1:													11 172,60	11 172,60	22 345,20
	Activity 3.2: Building technical capacity for installation of solar, and their maintenance	X	X	UNDP	001981	30000	00555	KHM	61300	DP	Salary & Post Adj Cost-IP Staff	IP staff (P5)-10%	UNDP	7 500,00	7 500,00	15 000,00
		X	X	UNDP	001981	30000	00555	KHM	71400	DP	Contractual Services - Individuals	National Energy Officer (SB4)- 20%	UNDP	1 595,00	1 595,00	3 190,00
		X	X	UNDP	001981	30000	00555	KHM	75100	DP	Facilities & Administration (GMS)		UNDP	727,60	727,60	1 455,20
	Total Activity 3.2:													9 822,60	9 822,60	19 645,20
	Activity 3.3: Strategic Communication and awareness raising	X	X	UNDP	001981	30000	00555	KHM	61300	DP	Salary & Post Adj Cost-IP Staff	IP staff (P5)-5%	UNDP	3 750,00	3 750,00	7 500,00
		X	X	UNDP	001981	30000	00555	KHM	71400	DP	Contractual Services - Individuals	National Energy Officer (SB4)- 20%	UNDP	1 595,00	1 595,00	3 190,00
		X	X	UNDP	001981	30000	00555	KHM	71200	DP	International Consultant	Developing booklet, factsheets and other materials	UNDP	5 000,00	5 000,00	10 000,00
		X	X	UNDP	001981	30000	00555	KHM	72100	CA	Contractual Services Companies	Exhibition of in-country case studies	UNDP	7 500,00	7 500,00	15 000,00
		X	X	UNDP	001981	30000	00555	KHM	75100	DP	Facilities & Administration (GMS)	GMS	UNDP	1 427,60	1 427,60	2 855,20
		X	X	MME	002452	30000	00555	KHM	72400	DP	Commune & Audio Visual Equip	Promotional video clips and educational materials	MME	5 000,00	5 000,00	10 000,00
		X	X	MME	002452	30000	00555	KHM	72400	CA	Commune & Audio Visual Equip	Communication relating to solar energy	MME	100,00	100,00	200,00
		X	X	MME	002452	30000	00555	KHM	71400	CA	Contractual Services - Individuals	Salary for contract staff on finance assistant to support MME	MME	750,00	1 000,00	1 750,00
		X	X	MME	002452	30000	00555	KHM	74500	CA	Miscellaneous Expenses	Bank charges, cheques, office supplies	MME	250,00	250,00	500,00
	X	X	UNDP	002452	30000	00555	KHM	75100	DP	Facilities & Administration (GMS)	GMS	UNDP	488,00	508,00	996,00	
	Total Activity 3.3:													25 866,60	26 130,60	51 997,20
	Activity 3.4: Development of enabling policies and measures	X	X	UNDP	001981	30000	00555	KHM	61300	DP	Salary & Post Adj Cost-IP Staff	IP staff (P5)-10%	UNDP	7 500,00	7 500,00	15 000,00
		X	X	UNDP	001981	30000	00555	KHM	71200	DP	International Consultants	International Consultant for developing localized energy efficiency design guideline for new residential and commercial buildings using simulation study	UNDP	10 000,00	10 000,00	20 000,00
		X	X	UNDP	001981	30000	00555	KHM	72300	DP	Materials & Goods	Pilot demonstration of EE solutions in public buildings	UNDP	15 000,00	15 000,00	30 000,00
		X	X	MME	002452	30000	00555	KHM	71300	DP	Local Consultants	National Consultant for developing localized energy efficiency design guideline for new residential and commercial buildings using simulation study	MME	3 000,00	3 000,00	6 000,00
		X	X	MME	002452	30000	00555	KHM	75700	DP	Training, Workshops & Conference	Consultation with private and public sector stakeholders on EE design guidelines, 2-	MME	1 500,00	3 000,00	4 500,00
		X	X	UNDP	001981	30000	00555	KHM	71400	DP	Contractual Services - Individuals	National Energy Officer (SB4)- 10%	UNDP	797,50	797,50	1 595,00
		X	X	UNDP	001981	30000	00555	KHM	75100	DP	Facilities & Administration (GMS)	GMS	UNDP	3 023,80	3 143,80	6 167,60
	Total Activity 3.4:													40 821,30	42 441,30	83 262,60
	Activity 3.5: Development of scaling-up strategies including programming and new partnership	X	X	UNDP	001981	30000	00555	KHM	61300	DP	Salary & Post Adj Cost-IP Staff	IP staff (P5)-10%	UNDP	7 500,00	7 500,00	15 000,00
		X	X	UNDP	001981	30000	00555	KHM	71400	DP	Contractual Services - Individuals	National Energy Officer (SB4)- 10%	UNDP	797,50	797,50	1 595,00
			UNDP	001981	30000	00555	KHM	75700		Training, Workshops & Conference	1 business talk and 2 consultation workshops	UNDP	3 000,00	3 000,00	6 000,00	
X		X	UNDP	001981	30000	00555	KHM	75100	DP	Facilities & Administration (GMS)	GMS	UNDP	903,80	903,80	1 807,60	
X		X	MME	002452	30000	00555	KHM	74200	DP	Audio Visual&Print Prod Costs	Translation	MME	4 000,00	4 000,00	8 000,00	
X	X	UNDP	002452	30000	00555	KHM	75100	DP	Facilities & Administration (GMS)	GMS	UNDP	320,00	320,00	640,00		
Total Activity 3.5:													16 521,30	16 521,30	33 042,60	
Activity 3.6: Monitoring and Evaluation	X	X	UNDP	001981	30000	00555	KHM	71800	DP	Travel and Meeting	Field monitoring	UNDP	1 500,00	1 500,00	3 000,00	
	X	X	UNDP	001981	30000	00555	KHM	75100	DP	Facilities & Administration (GMS)	GMS	UNDP	128,00	128,00	240,00	
Total Activity 3.6:													1 628,00	1 628,00	3 240,00	
Total Output 3:													105 818,40	107 708,40	213 526,80	
Project Management Cost	Project Management Cost	X	X	NCSD	009466	30000	00555	KHM	71300	CA	Local Consultants	Cost for National Project Coordinator (Basic Salary and old age)	NCSD	10 560,00	12 320,00	22 880,00
		X	X	NCSD	009466	30000	00555	KHM	72800	CA	Information Technology Equipmt	This cost is for gasoline	NCSD	400,00	400,00	800,00
		X	X	NCSD	009466	30000	00555	KHM	72400	CA	Commune & Audio Visual Equip	This is for communication for the staff in PMU	NCSD	360,00	360,00	720,00
		X	X	NCSD	009466	30000	00555	KHM	71400	CA	Contractual Services - Individuals	This cost is for contract services (1. Finance officer 2. Admin Officer and a project driver)	NCSD	6 465,00	7 545,00	14 010,00
		X	X	NCSD	009466	30000	00555	KHM	72500	CA	Supplies	Supply cost	NCSD	600,00	600,00	1 200,00
		X	X	NCSD	009466	30000	00555	KHM	72300	CA	Materials & Goods	This is for maintenance, tuner...etc	NCSD	600,00	600,00	1 200,00
		X	X	NCSD	009466	30000	00555	KHM	74500	CA	Miscellaneous Expenses	Bank charge .etc	NCSD	100,00	100,00	200,00
		X	X	UNDP	009466	30000	00555	KHM	75100	DP	Facilities & Administration (GMS)	Facilities & Administration (GMS)	UNDP	1 528,80	1 754,00	3 282,80

Annex 1- BESD Extension Concept Note
Proposal for priority activities from January to June 2021
Building an Enabling Environment for Sustainable Development (BESD)

About the BESD project

While Cambodia has attained impressive economic growth over the last 20 years, it faces a new set of environmental challenges such as 1) degradation of natural resources; 2) growing volume of waste, and; and 3) limited access to affordable, sustainable and clean energy among the poor. These challenges will have disproportionately adverse impacts on the poor and marginalized in both urban and rural settings, including issues relating to access to clean water, productive land and sustainable livelihoods, as well as affecting the health and quality of life of these populations¹.

The BESD Project seeks to strategically position Cambodia's path towards achieving the Sustainable Development Goals (SDGs) related to 1) *natural resources management (NRM)*; 2) *circular economy*; and 3) *clean, affordable and sustainable energy*. These SDGs will have positive multiplier effects on achieving other goals, including on poverty, gender, livelihoods, equality and governance. To achieve this objective, the Project designs and tests *innovative* environmentally sustainable models in the targeted areas through public and private partnerships. Based on evaluating results, the Project further identifies venues for scaling-up effective models. The Project will attain the following three outputs:

- **Output 1:** CBNRM institutions strengthened and financial resources mobilised for sustainable NRM
- **Output 2:** Waste reduced, recycled and reused through application of circular economy models
- **Output 3:** Improved access to clean, affordable, and sustainable energy for the rural poor

Key guiding principles for all the three outputs

The following sections present the main objectives, the key progress achieved in 2019 and 2020 as well as new priorities for 2021 for each of the three outputs. The project applies **the human rights-based approach**, which builds upon the principles of non-discrimination, participation, transparency, accountability and do no harm for all outputs.

- **Non-discrimination:** The project will ensure that all women, men, girls and boys have equal access to participate in decision-making processes and to benefit from economic opportunities, natural resources, environment and energy for their health and well-being. By taking into consideration the varied interests and needs of people of different genders, ethnicities, ages, and abilities, the project seeks to reduce inequality and to support economic and social development for all.
- **Inclusion and participation with special attention to the most vulnerable and to gender equality:** The project will ensure that all concerned actors have the rights and ability to participate freely in decision-making and in activities that affect them and their environment. Special attention will be paid to the poor and marginalised, including women and girls, who are among the most vulnerable to environmental degradation and have limited access to economic opportunities.

The project will apply the Free, Prior and Informed Consent (FPIC) principle to ensure that all relevant stakeholders are fully informed about, and accepting of, the activities that may affect them. The principle will also be promoted among decision-makers when critical decisions affecting community assets, natural resources and activities.

Drawing on full consultations, the project will incorporate the perspectives of vulnerable participants of all genders in designing and implementing activities and support their ability to benefit equitably from these activities. For instance, the project seeks to enhance the ability of vulnerable members under community based Natural Resources Management (NRM) institutions to design and implement priority activities under Payments for Ecosystem Services (PES) (output 1). The project will engage

¹ There have been varied attempts at communication about these adverse impacts by local communities, but it has so far proven difficult to change the situation, not least on account of the unequal status of rural people and government.

informal waste pickers, who are currently excluded from the formal economy, to take an active role in recycling activities under the circular economy model (output 2). The project will also target the most vulnerable off-grid households for provision of solar energy (output 3).

The project will furthermore ensure that measures will promote equal participation of all and prevent “elite capture,” in which powerful actors monopolize decision-making processes and benefits. These measures include FPIC, requirements of full consultation and participation of vulnerable segments of the target population in decision-making and implementation, and effective monitoring of adherence to the requirements throughout the project duration.

- **Transparency:** The project will ensure accessible and timely provision of information related to the project activities. For instance, the success of PES is linked to the willingness of public and private sectors to pay for the Fund for ecosystem conservation (output 1). Thus, it is critical to ensure that payments collected are transferred in a timely manner to the institutions and communities charged with conserving and protecting natural resources. Delays in payments that support the intended activities will inevitably undermine the payers’ trust in the system and eventually compromise its success. The project will therefore promote clear and effective mechanisms of fund- collection and transfer, and regularly disclose the fund volume and kinds of activities supported by the fund.
- **Accountability:** The project will promote result-oriented management, which centers on effective monitoring of, and systems for, direct feedback about project implementation. This allows for early identification and correction of problems and strengthens the accountability of all actors.
- **Do No Harm:** The project will be designed to reflect the cultural, socio-economic and political aspects of the local context, and to anticipate possible unintended and negative consequences deriving from the interaction between the project activities, targeted beneficiaries and the context.

In addition to the human rights-based approach, the project will also incorporate **political economy** perspectives in designing and implementing the project activities. This is based on the understanding that mere provision of policies, rules, regulations, and technical solutions will not solve a particular developmental challenge, especially if powerful actors oppose the proposed solution. Development outcomes are shaped not only by rules and regulations but also by the dynamic interactions between actors with different levels of power, and varied interests and motivations. Gaining a full understanding of power dynamics, which are often hidden, and of the motivations and interests of involved actors, is therefore crucial in order to identify and share realistic and effective pathways for change.

For example, the political economy perspective has been applied to select a pilot city for circular economy (output 2). In Phnom Penh, the capital of Cambodia, powerful interests hold control over current waste management. Since transforming current waste management practices may go against these vested interests, it is likely to face formidable implementation challenges. In contrast, Kep, while much smaller, is a city where the interests of influential actors are relatively supportive of piloting circular economy. On this basis, the project selected Kep as an ideal first site to demonstrate the potentials of the CE model. The model will be applied to larger cities later on.

The activities related to energy (output 3) also incorporate considerations of political economy. Despite the clear potentials of solar energy in Cambodia, powerful vested interests in coal and hydropower have created major barriers to implementation. In addition to economical and technical justifications for solar, the project team has therefore sought strategic ways of influencing actors through capacity building on the regulatory frameworks to facilitate mainstreaming of solar energy in the country.

The relevance of the project to the Sustainable Development Goals

This project directly contributes to the targets that Cambodia set as part of its SDGs such as **SDG 1** (No poverty), **SDG 3** (Good health and wellbeing), **SDG 4** (Quality education), **SDG 5** (Gender equality), **SDG 6** (Clean water and sanitation), **SDG 7** (Affordable and clean energy), **SDG 8** (Decent work and economic growth), **SDG 9** (Industry Innovation, and Infrastructure), **SDG 11** (Sustainable cities and communities),

SDG 12 (Responsible consumption and production), **SDG 13** (Climate action), **SDG 14** (Life below water), **SDG 15** (Life on land), and **SDG 17** (Partnerships for the goals).

Acronyms

ADB	Asian Development Bank
CBNRM	Community Based Natural Resource Management
EAC	Electricity Authority of Cambodia
EDC	Electricité Du Cambodge
EU	European Union
FAO	Food and Agriculture Organisation of the United Nations
GDEP	General Directorate of Environmental Education
GDLC	General Directorate of Local Community
GDANCP	General Department of Administration for Nature Conservation and Protection, MoE
GEF	Global Environment Facility
GHG	Greenhouse Gas
GSSD	General Secretariat for Sustainable Development
INRM	Integrated Natural Resources Management
MEF	Ministry of Economy and Finance
MME	Ministry of Mines and Energy (formerly MIME)
MoC	Ministry of Commerce
MoIH	Ministry of Industry and Handicraft
MLMUPC	Ministry of Land Management, Urban Planning and Construction
MoE	Ministry of Environment
MoI	Ministry of Interior
MoT	Ministry of Tourism
MoWRAM	Ministry of Water Resources and Meteorology
NCDSD	National Committee for Sub-National Democratic Development
NCSD	National Council for Sustainable Development
NGO	Non-Governmental Organisation
NPASMP	National Protected Areas Strategic Management Plan
NRM	Natural Resource Management
PA	Protected Area
PDOE	Provincial Department of Environment
PES	Payment for Ecosystem Services
PPA	Power purchasing agreement
PPP	Public Private Partnership
PV	Photovoltaics
RGC	Royal Government of Cambodia
RUPP	Royal University of Phnom Penh
SDG	Sustainable Development Goal
SHS	Solar Home System
SME	Small and Medium Enterprise
SIDA	Swedish International Development Cooperation Agency
SREP	Scaling-up Renewable Energy for Low Income Countries Programme
SWM	Sustainable Waste Management
ToR	Terms of Reference
UNDP	United Nations Development Programme
UNFCCC	United Nations Framework Convention on Climate Change
UN-REDD	United Nations REDD Programme
USAID	United States Agency for International Development
WB	World Bank

Output 1

CBNRM institutions strengthened and financial resources mobilised for sustainable NRM

Background for the Output 1 activities on NRM

In recent years, the Royal Government of Cambodia (RGC) has made significant advancements in strengthening a national conservation agenda. Cambodia has expanded its system of protected areas (PAs) that now represents over 41% of the country (7.3 million ha of land). This system is not only rich in biodiversity but also provides a range of ecosystem services (such as clean water, air, carbon storage, and wildlife habitat) that are part of a nation's wealth, or its "natural capital".

This network of PAs is however under heavy pressure. Among others, rapid economic development and unauthorized forestland encroachments have contributed to a loss of natural habitats and degradation of forests in many upstream watersheds². This in turn has significantly impacted the recharge of groundwater, downstream fisheries as well as carbon sequestration capacities. It also negatively impacts the livelihoods of many rural people, especially women and the poor, who are dependent on forests for subsistence and income.

These challenges persist largely due to limited human and financial resources available to effectively manage this vast PA system. At present, 7.3 million ha of protected landscapes are managed by just 1,260 Rangers (i.e. over 5,000 ha/Ranger). Moreover, the allocation of government budget to implement conservation efforts remains minimal. Despite more than doubling the size of the PA system over the past 5 years, the MoE's annual budget has remained below 0.5% of the National Budget³. This is not adequate for sustainably managing 41 % of Cambodia's total land area.

To respond to these challenges, the RGC has expanded opportunities for communities to engage in NRM, including establishment of more Community Protected Areas (CPAs). Additionally, in 2016, the RGC released an official order (*sochor nor*) to advance dialogue on Payment for Ecosystem Services (PES) as a new sustainable financing option to mobilise additional financial resources for PA management. The RGC designated two locations: Phnom Kulen in Siem Reap Province and Kbal Chhay in Sihanoukville Province, as pilot PA sites to test PES feasibilities referring to the vital role of these watersheds in providing clean water for tourism, which is a cornerstone of the country's economy. Using lessons from these pilots, the Government plans to introduce a national payments policy.

Phnom Kulen National Park-PKNP: The PKNP covers 34,700 ha of upper watersheds, which provides water to the downstream Siem Reap town. The primary threats to these ecosystem services include illegal logging, conversion of forests for cashew plantation and illegal land grabbing for settlements⁴. The depletion of forests in the PKNP has caused groundwater shortages, with possible adverse impacts on the stability of the foundations of the World Heritage Angkor Wat Temples as well as the future development and tourism opportunities of Siem Reap Province.

Kbal Chhay Multiple Use Area-KCMUA: The site is much smaller (5,520 ha) and has no Management Plan. This area contains the only water source for Sihanoukville town. The primary threats to these ecosystem services include forest encroachment in the water catchment and illegal land grabbing for settlements. The ANCO Water Supply Co. Ltd. holds a concession license to pump, treat and sell water to both the Preah Sihanouk Water Authority and ANGKOR Beer. The demand for water is expected to increase, as the Sihanoukville area is experiencing significant growth, and reach a peak in 2023.

² Royal Government of Cambodia. (2017). National REDD+ Strategy 2017-2026.

³ Royal Government of Cambodia. (2020). Law on National Budget 2020.

⁴ Ministry of Environment. (2018). Management Programme Kulen Mountain National Park 2018-2027.

Key objectives

In support of the ongoing efforts of MoE to address human and financial resource challenges in managing protected areas, Output 1 activities aim to design and pilot innovative solutions that will contribute to strengthening of the role of local communities and stakeholders in managing natural resources and ecosystem services (Activity 1.1) and to the sustainable financing of PAs (Activity 1.2). In addition to working in the two pilot sites (PKNP and CBMUA), the Project is also developing synergies and enabling strategies at the national level to mobilize support for PES.

Main activities and key progress to date

Below lists key activities and progress made by the project up to June, 2020.

Activity 1.1. Expansion and strengthening of community based NRM (CBNRM)

The Project supported the CBNRM gender assessments, awareness raising and training workshops, provisions of alternative livelihood options, and boundary demarcation.

- **CBNRM gender assessments:** The Project completed detailed gender assessments of CBNRM to enhance opportunities for women to participate in the management of Community Protected Areas (CPAs) inside PKNP. Its recommendations have been incorporated for a number of awareness raising and training workshops were facilitated for local villagers in PKNP.
- **Building the capacities of CPAs and its network:** The Project conducted a series of meetings and workshops to promote the concepts of CBNRM, to support the effective operation of a CPA network, and to clarify the roles and responsibilities of villagers with respect to setting by-law regulations and dealing with illegal activities. Enhanced opportunities for women to participate in the CPA management committees were also explored.
- **Support for alternative livelihood activities:** The Project provided alternative livelihood options to cashew nut plantation (a major driver of deforestation) for marginalized villagers in Po Pel village that manages one of the CPAs inside PKNP. The initial support to build a water distribution system has been targeted to 23 families (including 95 females and 100 children), along with the aim to alleviate the workloads of women in the village.
- **Boundary demarcation to prevent encroachment:** Clear boundary demarcation of the Park boundaries and the boundaries of CPAs located inside the Park are prerequisite to prevent illegal encroachments. The Project facilitated the placing of over 100 marked and geo-referenced posts to protect CPAs and a 900-ha watershed of the Klah Khmum village.

Activity 1.2. Operationalizing Payment for Ecosystems Services (PES) in Cambodia

The Project conducted PES feasibility studies in the two pilot sites to propose options for PES operationalization and organized a national policy dialogue on PES. All the background assessments and design features for PES schemes in the two pilot sites will be completed by the end of 2020.

- **An assessment of the Phnom Kulen watershed to analyse the link between deforestation and water supply:** The assessment predicted severe water shortages for the tourism and agriculture sectors due to ongoing deforestation in the upstream Kulen Mountain watershed, and an increase in water demand in the downstream Siem Reap town⁵. It highlighted the need for sustainable financing mechanisms to ensure the protection of forests and watershed services from PKNP.
- **A review on "Willingness-to-Pay" (WTP) for Phnom Kulen:** This WTP review found both visitors to the Park and the tourism industry were willing to contribute funds to support park management (e.g. an average of US\$1.7 per local tourist and US\$5.2 for a foreign visitor and an annual contribution

⁵ UNDP Cambodia. (2020). Assessment of water quality and quantity in Phnom Kulen National Park of Stung Siem Reap Watershed. Technical Report.

of US\$81 (hotels), US\$58 (guest houses) and US\$45 (tour operators)⁶. WTP respondents also highlighted the need for transparency in fund management and ensuring the revenues collected were directed to PKNP management.

- **Policy recommendations to operationalise a PES scheme for Kbal Chhay:** The Project analyzed an existing legal framework and developed a set of policy recommendations for a PES scheme for the Minister's consideration. These included 1) reviewing the nature of the ANCO water license (including the rights to collect entry fees); 2) allocating US\$40,000/year from the Environmental and Social Fund to initiate priority management actions; 3) establishing a PES mechanism along with a draft operational guideline to mobilize funds from the tourism and industry sectors on a voluntary basis in 2020, making the payments compulsory by 2021; 4) establishment of a multi-stakeholder committee to oversee the operations of the KCMUA PES Fund and 5) a proposed institutional arrangement for PES linked to the Environmental and Social Fund.
- **A National Dialogue on "Payment for Ecosystem Services in Cambodia":** The Project organized this dialogue in September 2019 with over 160 participants. The dialogue concluded with identification of short and medium-term interventions that have been incorporated in the Output 1 work plan for 2020 and in the priorities for 2021- 2023. In addition, the NCSA has advanced policy dialogues between key Ministries (MoE, MAFF, MEF and MoT) with the aim of operationalizing PES.

Activity 1.5 and 1.6: Strategic communication and awareness raising & Development of scaling-up strategies including programming and new partnerships

The Project has facilitated synergies and raised interest for PES among other development partners in Cambodia, including FAO, ADB, GEF and REDD+. Significantly, the UNDP-led global Biodiversity Finance Initiative (BIOFIN) has added Cambodia to its target countries⁷.

A National PES Strategy with enabling regulations will be developed to scale-up best practices from the pilot sites and enhance new partnerships to sustain PES efforts in the longer term.

Remaining Gaps and Priorities for January to June 2021

Thus far, the project has made important progress in enhancing the capacities of CBNRM institutions as well as providing evidence-based policy recommendations for operationalizing PES schemes.

Remaining gaps: In order to realise a sustainable financing mechanism for Cambodia, the two pilot PES sites should be fully operationalized along with an enabling regulatory framework. Such a framework needs to clearly define PES fund sources, fund collection mechanisms, roles and responsibilities of different actors and priority activities to conserve and protect watersheds under the PES scheme.

The sustainability of the PES scheme also depends on an enabling national PES strategy to clearly define priority actions to systematically mobilise external funding or revenues collected from fees, fines and taxes back into the national PA system to cover operational costs, and habitat restoration efforts. Priorities for January and June 2021 include:

1. Operationalize PES for Phnom Kulen and Kbal Chhay (MoE, PDoE, MLMP, MoI, MEF)

The Project will establish and operationalize two pilot PES Funds for Kulen Mountain and Kbal Chhay and develop enabling regulations. At the initial stage, it will establish multi-stakeholder PES Management Committees on both sites for designing and operationalizing the Fund. This work entails:

⁶ UNDP Cambodia. (2020). Willingness To Pay Survey for PES in Phnom Kulen National Park. Technical Report.

⁷ BIOFIN developed a number of technical papers (e.g. Biodiversity Expenditure Review, Biodiversity Financial Needs Assessment, and Policy and Institutional Review) that will serve as a basis for developing a Biodiversity Finance Plan under the next phase of BESD.

- **Development of a Management Plan for PES for Kbal Chhay:** A Management Plan for the Kbal Chhay watershed will be developed (note: PKNP already has an approved Management Plan);
- **Defining key priority actions** in alignment with Management Plans, including reforestation, demarcation, capacity building activities to actively engage local communities, and other relevant stakeholders (government and private sector) in addressing current threats by land encroachment and settlements. Implementation of these actions will directly involve the forest dependent communities, Rangers and the private sector. Regular monitoring of service delivery will be done to ensure transparency and broad participation;
- **Defining funding sources and mechanisms for PES fee collection:** Given that potential revenues from PA entry fees and hotel taxes may be reduced as a result of COVID-19, the Project will explore additional PES opportunities. For Kulen, this could include a modest % of water fees charged by the Provincial Water Authority (focused on private sector use), in addition to a share of the current airport tax (e.g. US\$1 each for international travelers). For Kbal Chhay, potential fund sources include a modest % of the water user fees charged by ANCO, CSR contributions by ANGKOR Beer, and airport fees for international travellers and contributions by tourism operators and businesses (e.g. hotels, Casinos, guest houses) in Sihanoukville. The Project seeks to mobilize payments from the private sector on a voluntary basis during 2020-22 and made compulsory by 2023;
- **Defining institutional arrangements** including the roles of different government agencies and other stakeholders on revenue collection, disbursement and monitoring of fund management;
- **Completing negotiations between the supply and demand sides** to reach agreements on the type and size of initial investments in the protection of the PKNP and KCMUA; and
- **Overseeing transparency and accountability in revenue collection and disbursement.** Disbursements will be made through annual operational budgets determined under the Project based on clear roles of government and local communities in undertaking proposed activities.

The Project will ensure that women and the most vulnerable groups are empowered to participate in all aspects of planning, management and decision-making processes, described below.

2. Develop a Draft National PES Strategy (NCSD, GSSD, MoE, MEF)

The root cause of ecosystem degradation is attributed to the fact that many ecosystem services remain "invisible" to most people, rarely monetized, and often assumed to be free, like clean water. Building on the BIOFIN work, the Project will make visible how the Cambodia's PA system and biodiversity contributes to the GDP growth indirectly and directly. The factor will be integrated into the development of a national strategy and supporting financial reforms.

- **Development of a National PES strategy and Action Plan (including a proposed implementing plan):** The Strategy will identify priority actions and a roadmap for upscaling PES pilots to the national level while ensuring the strategy to be realistic and implementable. The short-term focus will be to mobilize funding for the MoE and provincial PA agencies (PDoEs) over and beyond allocations from the National Budget to ensure the effective implementation of priority actions in existing PA Management Plans (2021-2023). Over the long term (2024-2031), a national payment scheme for environmental services will be in place to benefit conservation and collaborative management efforts across PAs in Cambodia in alignment with the National Protected Area Strategic Management Plan (2017-2031).

The above PES Strategy and Action Plan will draw lessons from the global BIOFIN initiative and include a broader Biodiversity Finance Plan to mobilize financial resources ranging from realigning national budgets and introducing environmental taxes on the private sector to implementing PES-like schemes for PAs.

3. Promote knowledge management, capacity building and awareness raising

- **Strengthen knowledge management and communication through the existing cleaning house mechanism (CHM)⁸ to promote information sharing and database system on PES.**
- **Reinforce awareness raising and partnerships (NCSD, MoE [GDLC], MoEYS, MoWRAM):** Improved understanding of the value of biodiversity conservation to sustainable development is essential to address the persistent threats to ecosystem services. Vocational training will be provided to local communities in promoting organic farming and alternative and sustainable livelihood opportunities. Capacity building support will be provided for both women and men for the effective implementation of PES and sustainable livelihoods. Building on the results of COVID-19 response activities supported in 2020, the project will continue to engage the vulnerable groups in the maintenance of the planted trees in Community Protected Areas. The aim is to strengthen their ability to cope with economic shocks caused by COVID-19 by creating employment opportunities while enhancing the ecosystem services that provide food, fiber, shelter, and fresh water for the people.

4. Strengthen partnerships and support programming:

The Project will continue to strengthen partnerships with relevant partners in civil society, private sector, and governments

⁸ CHM is a channel for sharing good practices with (international) outsiders and can be part of the GIS database within the Ministry of Environment to improve data and information management and sharing.

Output 2

A Circular Economy as a Solution for Waste

Background: The growing volume of waste is a new environmental challenge for Cambodia

In Cambodia, the combination of rapid population growth and economic development has led to an exponential surge in the volume of municipal and industrial solid waste, which is presently turning into a significant challenge for waste management.

Current rates of solid waste disposal in municipal landfills are expected to double by 2029, reaching 2.1 million tons per year. This will likely exceed the capacity of all existing landfills in Cambodia. The situation is particularly alarming in major cities such as Phnom Penh and Siem Reap. In Phnom Penh, around 3,000 tons of municipal waste is generated every day. More than 80 % of this waste consists of recyclable materials (e.g. organic 52%, plastic 21%) (see Phnom Penh Strategy Action Plan). However, present waste management practices focus mainly on collection and disposal. Private companies collect and dispose of waste at landfills without any sorting, recycling, or reuse. A minimal volume is collected informally by people who gather waste from both landfills and households and sell recovered valuables to intermediaries, usually destined for Thailand or Vietnam for further processing.

These informal garbage collectors face health risks as a result of being directly exposed to toxic substances and accidents on landfill sites. At the same time, the large amount of untreated waste exposes the general population to numerous risks such as water pollution, the spread of disease, odor nuisance and air pollution from burning garbage, not to mention contributing to GHG emissions.

Key objectives and main activities

In response to this waste management challenge, output 2 activities aim to introduce and mainstream "Circular Economy (CE)" as a solution to the problems of waste. The key goal of the output 2 activities is to test and promote viable CE options to ensure sustainable management of resources and waste. The project has sought to achieve this goal by implementing the following set of main activities: piloting new business approach for municipal and industrial waste (activity 2.1. and 2.2), strategic communication and awareness raising (activity 2.3), development of enabling policies and measures for CE (activity 2.4), and development of scaling-up strategies (activity 2.5).

Main activities and key progress to date

The main progress for each activity is listed below.

2.1. Piloting new business approaches for municipal waste

The project is designing a small-scale circular economy pilot scheme for Kep. This includes formulating a proposal for simple waste separation requirements (e.g. into organic and non-organic), designing adequate incentives in support of waste separation at source, and devising viable business models for waste depot investment as well as governance structure mechanism.

2.2. Designing a new business approach to industrial waste with the private sector

Two types of activities have been supported under this component.

One is to assess CE options for the garment sector, which is the largest industry in Cambodia, in response to their two major kinds of environmental challenges. They are heavy reliance on fuelwood as the main energy source for boilers and generation of a large volume of textile waste. The garment sector has been exploring options like a small-scale on-site Waste to Energy (WtE) solution and a large-scale WtE solution involving a cement kiln for co-processing waste. In partnership with the company H&M, the project assessed the environmental risks and benefits of the proposed CE options and provided recommendations for appropriate measures to maximize the CE benefits and minimize environmental and public hazards.

Another activity related to industrial waste is the development of a draft private sector engagement strategy developed by the UNDP Policy and Innovation unit. In support of this, the unit undertook rapid assessments of the major waste-generating and plastic-using industries with a view to identifying quick wins to be pursued by the private sector.

2.3. Strategic communication and awareness raising

In 2019, the project supported the **Special Taskforce on Plastic** established by the Ministry of Environment (MoE) and the National Council for Sustainable Development (NCSD). The Taskforce focuses on three priority areas: 1) Policy and regulation reviews on plastic, 2) Plastic waste communication and outreach, 3) Business development and support.

In line with the priorities set by the taskforce, the project developed a range of communication materials to raise awareness about problems with plastic waste and to promote the **4 Rs (Refuse, Reduce, Reuse, and Recycle) of plastic**.

For awareness raising and advocacy, the project 1) drafted a new guideline for the MoE and NCSD to internally implement 4 Rs, and 2) created posters, a booklet, and website contents for both MoE and UNDP, and social media messages to raise awareness about plastic problems and the urgency to implement 4 R actions among the general public.

Based on the government recommendation to actively engage and encourage younger generations to take actions for shaping a sustainable future, the campaigning activities primarily targeted the younger population.

The project, for instance, supported a **youth-led plastic-free campaign with the Royal University of Phnom Penh (RUPP)**. This campaign involved over 300 students and included a competition where students created videos to raise awareness and promote behavioural change.

To enable wider outreach, the project also conducted **joint campaigns against plastic waste with Cambodian celebrities**. The campaign entailed launching a cartoon video featuring a plastic monster, and two music videos and a TV commercial on the topic of plastic. The campaign also involved a three-day concert to raise awareness of plastic issues, which was held during the Water Festival. This campaign gained more than 10 million social media views. A TV commercial on 4Rs (Refuse, Reduce, Reuse, and Recycle) reached 1.3 million viewers.

Finally, in December 2019 the project organized a **national forum on plastic waste** which brought together more than 100 stakeholders (government, private sector, schools, development partner and NGOs) to share best practices and necessary actions.

2.4. Development of enabling policies and measures for circular economy

In order to identify viable CE options, the UNDP Policy and Innovation unit conducted various kinds of background research. They included 1) rapid review of single-use plastic regulations (plastic straws, Styrofoam) in countries across the world and creation of recommendations for Cambodia, and research on 2a) plastic waste recycling, 2b) organic waste recycling and 2c) Waste to Energy (WtE) options to identify the state of practice, existing barriers and opportunities for promoting CEs.

These research findings have been incorporated into a recommendation to the Plastic Taskforce for **single-use plastic regulations** (in draft) and a **Circular Economy Strategy and Action Plan** (in draft). The plan defines closure of the loop of the entire value chain (production, distribution, consumption, waste generation, and waste treatment) as a national goal. This will be accomplished by minimizing resource and energy input and waste, and by maximizing resource value. The plan also outlines a roadmap, including short-, medium-, and long-term priority actions to enable Cambodia's transition to a circular economy.

2.5. Development of scaling-up strategies including programming and new partnership

The project has formed strategic partnerships to advance CE dialogues with relevant institutions and initiatives, including existing UNDP projects such as Cambodia Climate Change Alliance, the World Bank (on plastic interventions), EU Switch Asia Programme (on sustainable consumption and production) and Global Green Growth Institute (GGGI) (on the Kep pilot). The UNDP Policy and Innovation unit has explored additional funding opportunities to complement and leverage the impacts of the BESD interventions, including:

- **The Embassy of Japan:** In March 2020, UNDP Cambodia submitted a proposal to the Embassy of Japan with the aim to support Cambodia in tackling plastic waste. This proposed project aims to provide technical assistance focusing on plastic waste, including regulations, business development for recycling, and awareness raising.
- **Alliance to End Plastic Waste (AEPW):** In January 2019, the AEPW was formed as a not-for-profit organization funded by over 45 companies to develop and implement solutions that will reduce the 8 million tons of plastic waste entering the oceans every year. In April 2020, UNDP Bangkok regional office signed a Memorandum of Understanding with AEPW, including Cambodia as one of 8 countries for their future support.
- **Co-impact System Change Grant:** In April 2020, UNDP Bangkok regional office (involving Cambodia, India, Viet Nam, The Philippines, Thailand) submitted a proposal for this grant. The proposed actions include waste segregation, changing consumer behaviour, establishing circular economy labs, training/upskilling workers for circular economy roles, advising national single-use plastics policies, engaging waste-picking communities, and supporting municipalities to design strategies for disposal of unrecyclable plastic to avoid leakage into the environment.

Priorities for January – June 2021 building on lessons learned

In 2019 and 2020, the project played a pivotal role in testing various approaches to promote CE options for municipal and industrial waste, and to advance policy and business dialogues that facilitate adoption of CE approaches applicable for Cambodia. Building on early results, and lessons learned as well as reflecting new emerging priorities, the following set of activities from January to June, 2021 are proposed to advance the transition towards a CE. Each activity includes a proposed list of institutions for activities.

1. Finalize a CE strategy and action plan and identify priority regulations for CE (NCSD, MoE)

The draft CE Strategy and Action Plan outlined priorities across the value chain (production, distribution, consumption, waste generation and treatment) to realize the transition towards a CE. Using the Plan as a guiding document, the project identifies priority regulations to be developed to promote key CE actions. The Plan will be disseminated to the sub national level and local authorities will be trained on its content and implementation. Drawing on other countries' lesson that the success of CE approach depends on the degree to which informal sectors participate in the model, the below interventions promote their active engagement for a CE wherever relevant.

2. Operationalise the CE model in Kep (NCSD, MoE, NCDD, Kep municipality)

The project support to the Kep model is pivotal in order to develop a model applicable for a small town with limited access to infrastructure and technology. The next priority is to operationalize the model by engaging stakeholders including the subnational government, private sector, and households. This begins with working with the major hotels and markets to sort waste for separate collection and treatment, and then later on with households. Given that most sellers in markets are women and household separation of waste is usually managed by women, the project will ensure their active participation in waste sorting and recycling, while helping to minimise their workload. The project may provide additional technical assistance for interested parties for on-site treatment of organic composting and quick measures to reduce plastic waste. The project will support recycling industries and social enterprises to be able to

treat sorted waste. The project will also identify and promote the role of informal waste pickers, who are excluded from the formal economy, in being part of the new model.

3. Ensure the environmental sustainability of Industrial Circular Economy solutions (NCSD MoE)

Some businesses in the industrial sector have promoted circular economy solutions as a means to reduce costs and mitigate environmental impact. One of these solutions is an on-site WtE facility to use textile waste as an alternative energy source to fuelwood. While this facility reduces reliance on fuelwood, it creates potential risks that burning textile leads to air pollution unless properly operated. The project will provide technical assistance to ensure the safe handling of these types of facilities, through the development of operating manuals and guidelines along with capacity building support for operators to mitigate any potential risks.

4. Promote the private sector engagement for a CE (NCSD, MoE, MoIH, ITC)

The private sector has a pivotal role in driving and scaling up business innovation in order to accelerate the shift from a linear towards a CE. The project will support:

- **The formation of CE private sector platform.** Building on a draft private sector engagement strategy, the project will design and create a platform to promote business led CE innovation and investments. A platform will be created to invite interested industries to join different CE tracks, to address specific challenges faced by different sectors such as manufacturing, wholesale and retail, food and beverage, and hospitality. A platform will provide information of quick and easy implementable CE measures for each sector and a list of available guidelines, technologies and companies which can provide solutions (e.g. composting, plastic and bottle recycling, alternatives). Companies with best practices may receive an award of recognition such as a Green Hotel Standard.
- **At least one short-term quick pilot initiative** will be supported in the priority areas of single-use plastic waste and recycling to generate valuable lessons in innovative private sector CE involvement. The project will explore a partnership with national universities such as ITC (Institute of Technology of Cambodia) to promote student led STEM innovation and train the next generation of CE Engineers including female students to build domestic capacities for promoting a CE and recycling. Lessons from pilot(s) will be used to upscale private sector CE innovations in terms of increasing the size of the innovation or widening its reach, in order to ensure that the entire country benefits from CE innovations.

5. Strengthen awareness raising and environmental education (NCSD, and MoE)

Improved knowledge is conducive to inducing behavioural change shifting towards a CE. A joint campaign with Cambodia celebrities enabled the project to achieve more than 10 million views. Information materials including posters were also instrumental in raising awareness among the targeted population including citizens, the civil society, academics, and the private sector. The project will continue to update and share information and raise awareness among relevant stakeholders, through various communication channels which may include government websites, newspapers, posters, media talk shows, rural campaigns, and social media. Furthermore, to ensure long term behavioural changes, the project will work with schools to develop and update appropriate environmental education materials to integrate environmental issues in school curriculums.

6. Strengthen partnership and programming (NCSD and MoE)

The project will continue to strengthen partnerships with relevant partners and mobilise resources to complement and leverage the impacts of the BESD interventions.

7. Share and disseminate best practices (NCSD and MoE)

The project will share key insights and lessons through its website, project briefs, domestic and international conferences and initiatives.

Output 3

Improved access to clean, affordable, and sustainable energy for all

Background: The widened gap between energy demand and supply in Cambodia

As of 2018, out of 16.5 million population⁹, 4.87 million¹⁰ do not access to grid electricity and are reliant on car batteries, wood, and other traditional fuels for energy¹¹.

There has been a rapid development in the installed capacity of **electricity generation** in Cambodia, from 584 MW in 2010 to 2,756 MW in 2019. Total power generation capacity in 2019 consists of, hydro of 1,330 MW (48%), thermal power (mainly coal) of 675 MW (24%), fuel oil-based generation of 227 MW (8%), renewable energy of 124 MW (4%), and captive power of 400 MW (15%) to meet power demand during dry season¹². The peak power demand is forecasted to be at 3,256 MW in 2030 according the "Energy Sector Assessment, Strategy, and Road Map" report of Asian Development Bank (ADB).

Despite of rapid power development, 1,037 villages remain without grid connection. The unelectrified villages are mostly located in highly vulnerable areas to climate change, e.g. remote islands of the Tonle Sap. As per Electricity Authority of Cambodia (EAC), these villages are not expected to get grid extension at least for another 5 years although the government aims to electrify all villages by 2021.

On the demand side, building sector was the highest final energy consumer in 2017 with an estimated share of about 52% equivalent to 3.5 Mtoe¹³. Residential and commercial buildings consumed 77% of total final energy in that year. According to national forecast, buildings energy consumption will be more than double until 2040. Since the year 2000, Cambodia's Ministry of Land Management, Urban Planning and Construction (MLMUPC) has approved 43,136 construction projects on a total land area of 114 million m². The estimated investment capital of these construction projects is more than US\$43 billion. At the end of first half of 2019, Phnom Penh office buildings space increased to 463,701 m², an annual increase of 23%. Post 2021, the Phnom Penh office building supply will comprise approximately 1,059,170 m², a 130% increase over the existing supply. This increase in building stock is posing a severe challenge to meet growing electricity demand. The government recognized that the booming constructions was one of the major causes for the sever power shortage during the dry season in 2019.¹⁴

To meet this ever-growing electricity demand, the power development plan (PDP) 2015 aimed for large hydro and thermal power mainly from coal and natural gas. Whereas country's commitments under Agenda 2030, and Paris Agreement, as well as increased vulnerability of national grid during dry season because of its heavy dependence on hydropower are forcing to revisit the plan. PDP 2020 is expected to ensure a more cohesive approach between policies and upgradation of electricity generation towards a greener path along with expanded transmission and distribution infrastructure to stimulate economic growth. On the demand side, the Ministry of Mines and Energy (MME) is currently updating the National Energy Efficiency Policy draft with the support of ADB, which is expected to be in place by first quarter of 2021.

⁹ Total population in 2018 is 16.25 million (sources include World Bank data)

¹⁰ Data from Cambodia's Voluntary National Review 2019 on the implementation of the 2030 Agenda for Sustainable Development https://www.kh.undp.org/content/cambodia/en/home/library/environment_energy/cambodia_s-voluntary-national-review-2019.html

¹¹ "Cambodia Energy Sector Assessment, Strategy, and Road Map" December 2018, available at <https://www.adb.org/sites/default/files/institutional-document/479941/cambodia-energy-assessment-road-map.pdf>

¹² https://eac.gov.kh/uploads/salient_feature/english/salient_feature_2019_en.pdf

¹³ Million Tonnes of Oil Equivalent

¹⁴ <https://asia.nikkei.com/Economy/Chinese-construction-rush-aggravates-Cambodia-s-electricity-shortage>

The building sector is one of the three sectors where the energy efficiency policy will be implemented. Driving the energy efficiency in building sector could lead to annual energy savings of up to 25% compared to the BAU¹⁵ scenario in 2035. In monetary terms, this is equivalent to annual cost savings of about US\$ 1.35 billion in 2035. Cumulatively, energy efficiency in buildings can avoid up to 17.3 million tonnes of carbon emissions until 2035 in Cambodia.¹⁶

Cambodia is one of the countries in the region with high cost of unit electricity. In 2015, unit average cost of electricity was about US\$ 0.20 per kWh, whereas in 2017, the price has fallen to about US\$ 0.12 per kWh. The government aims to reduce the energy cost for consumers by lowering the electricity tariff in the long run. Energy efficiency can also help to reduce electricity bill for residents and businesses. Furthermore, energy efficiency is one of the most cost-effective ways to enhance energy security, to boost competitiveness and welfare, and to reduce the environmental footprint of the energy system.¹⁷

The Ministry of Land Management, Urban Planning and Construction (MLMUPC) is currently developing technical building regulations. Integrating minimum energy performance in these technical regulations is highly recommended to reduce the energy demand growth. Building energy standards and regulations will not only accelerate the low-carbon development of Cambodia but also promote energy security and reduce the investments in new power supply infrastructure. These are important from political economy considerations. Developing a sustainable energy efficiency market also offers additional benefits for employment, poverty alleviation, health, competitiveness, and the environment.

It is therefore important to address both, supply and demand side challenges, while meeting increased energy demand.

Key objectives

In responding to this challenge, the objective of output 3 is to increase the share of renewable energy in the overall energy mix and provide affordable and reliable energy access to the vulnerable communities. Output 3 activities are aimed to attaining Cambodia's SDG 7 targets.

The project has sought to achieve this goal by implementing the following set of main activities under Building an Enabling Environment for Sustainable Development (BESD) project.

Main activities and key progress to date

The progress achieved by each of these activities is listed below.

Activity 3.1. Solar energy for improving energy access for rural communities

- Conducted site selection and technology comparison assessment for off-grid solar technologies including solar home systems (SHSs), direct current (DC) or alternating current (AC) minigrids, solar water pumping and other productive use applications for rural communities¹⁸. After evaluating various technology choices, the project selected implementation of DC micro grid as an innovative approach, which is flexible to meet the needs of the village including productive uses in the Steung Chrov Village of 141 households (HH) in Kampong Chhnang province. It was proposed to implement Okra's DC micro grid. About 30 HH have female as the head of the families and 10 households have people with disability or elders as the head of the families.
- The project is successfully testing viable solar business models to provide solar PV technologies to rural communities through Clean Energy and Incubation Program that was launched with seed

¹⁵ Business-As-Usual (BAU)

¹⁶ MME. (2017). National Energy Efficiency Policy 2018-2035 (Draft). Royal Government of Cambodia.

¹⁷ <https://www.iea.org/reports/world-energy-outlook-2019/energy-efficiency#abstract>

¹⁸ Refer to

https://seveaasso.sharepoint.com/:f:/s/SeveaOneDrive/EmCJIWkhp_5CgvNzWQVg2LwBkyK8nQ_gfILG8asOY9NQGA?e=S9WbgW

investment to 4 companies to secure first payment customer and consolidating business in securing investments.

Activity 3.2. Building technical capacity for solar PV technology installation, operation and maintenance

- The project developed SHS guideline, which was approved by the MME.
- Conducted training for 20 engineers/technicians on SHS design, installation and maintenance for off-grid solar energy during 6-7 February 2020.

Activity 3.3. Strategic communication and awareness raising

- Developed a leaflet on SHS as part of communication materials and is expected to be disseminated to the SHS suppliers, end-users for raising awareness on the key components of a SHS, basic operation and maintenance.

Activity 3.4. Development of enabling policies and measures for solar

- Evidence-based, economics of solar study is under progress that presents commercial assessment of costs and benefits, and how solar energy will boost the economic efficiency by diversifying Cambodia's sources of generation that informs decision making at policy level. This study will support policy and institutional planning on solar PV.

Activity 3.5. Development of scaling-up strategies including programming and new partnership

- Initial discussions with United for Efficiency (U4E) indicate a potential technical support from U4E to prepare energy efficiency guidelines and regulations for household appliances and equipment in Cambodia.
- Expanding energy access to the unserved communities remains a top priority of the government. The project team had identified Okra Solar (under activity 3.1) as an emerging partner to bring affordable and reliable energy to the villages that are not connected to the national grid.
- Having seen the potential for rooftop solar, UNDP invested its own resources to prepare a background briefing paper "Optimising Metering and Monitoring in Cambodia for New Tariffs" with the purpose to investigate how the electricity consumption of large customers is currently being metered, how the data is being handled, and the options available to large customers to access data on their own consumption. This paper provided some insights on the required preferential tariff for customers who installed a solar power system.

Priorities for January-June 2021 building on lessons learned

In 2019 and 2020, BESD project played a very important role in exploring off-grid solutions for vulnerable communities in rural areas, improve technical capacity through guidelines on SHS, and studied policy options to increase the share of renewables in electricity grid mix. Building on these early results, and lessons learned as well as reflecting new emerging priorities, the following set of activities are proposed for 2021 to promote clean energy as an engine of growth while recovering from COVID-19 and to advance the transition towards attaining Cambodia's SDG 7 targets.

Although energy efficiency was mentioned in the original Project Document of BESD project, this was not addressed during 2019 and 2020. UNDP invested its own resources in this potential emerging area through developing a project proposal for energy efficiency in residential and commercial buildings, as buildings are expected to consume about 70% of the total final energy and provides an opportunity to conserve scarce energy resources. Proposed energy efficiency interventions can be integrated into the ongoing BESD project activity 3.5, "Development of scaling-up strategies including programming and new partnership".

1. Affordable off-grid solar for productive applications in vulnerable communities

Building on the success of Okra business model during 2020 (activity 3.1), the project will work with regulators, Rural Electricity Enterprises (REE) and end-beneficiaries to promote solar DC micro grid as an option while providing electricity supply to the off-grid communities as a top government priority.

- Business model of solar DC micro grid shall be fine-tuned further to suit the energy demands of vulnerable communities while improving their livelihoods and living standards by closely working with local women's groups youth and children and their empowerment. Particular attention will be paid to the rights of socially marginalized groups such as women, persons with disabilities, youth and children using appropriate rights-based approaches. Affordability to pay for the electricity is a barrier considering high poverty rate in these communities. The project will work with financial institutions, REEs and Rural Electrification Fund (REF) to deliver a viable business model while expanding energy access. The women headed households and families with disabilities will be given a top priority while showcasing its implementation in off-grid villages.

2. Promote demand side energy efficiency to reduce peak load demand

- **Improve Energy Efficiency (EE) in buildings:** The objective is to improve energy utilization efficiency of buildings in Cambodia, particularly residential and commercial buildings through localized energy efficiency design guidelines, increased awareness, knowledge, and capacity on energy efficiency (EE) and energy conservation (EC) in buildings among buildings users and decision-makers of the construction sector. The National Council for Sustainable Development (NCSA) has initiated a project on guidelines and certification for green buildings in Cambodia (2019-2021). The aim of this project is to develop a national green building certification system in Cambodia, wherein EE is an important element of green buildings. Following activities are proposed to be implemented from January to June 2021.
 - a. Develop localized energy efficiency design guidelines for new residential and commercial buildings that are be used for Green Building Certification System under development by NCSA (EE design guidebook)
 - b. Pilot demonstration of energy efficiency solutions in one public building in coordination with NCSA Green Building Certification Project
 - c. Awareness raising on energy efficiency designs in public and private sector through promotional videos, factsheets, exhibition of in-country case studies, business talk (1)/ consultations (2)

Sustainability plan

In order to sustain and leverage the results achieved by the BESD project, UNDP Cambodia will deploy the following strategies, through two new projects: "global Sida-UNDP programme" and "combatting marine plastic litter" funded by Japan. Both are scheduled to commence in January 2021. This will allow overlaps between the BESD and these initiatives during the period between January and June 2021 to transfer project knowledge and results to be taken up by the new projects.

Global Sida-UNDP programme (January, 2021-Dec 2023)

For the output 1 and output 3 activities, UNDP Cambodia will ensure sustainability and scaling up of the results achieved by the BESD project, through the global Sida-UNDP programme.

The main aim of this programme is to strengthen UNDP capacities to achieve its overall Sustainable Development vision for poverty eradication through a more integrated, coherent approach to the environmental and climate dimensions of its Strategic Plan. Cambodia is included as one of pilot countries under this programme.

This programme will be implemented for three years from January 2021 to December 2023, administrated by the UNDP headquarter. Under this programme, UNDP Cambodia plans to engage one SB5 level national officer for biodiversity/PES and one SB4 level national officer for energy. They will serve to build the bridge and synergy between the BESD project and the Global Sida project and other related initiatives to sustain and take up key priorities for future actions.

- **Key roles of SB5 national officer (biodiversity and PES) linked to output 1:** The SB5 national officer is to sustain and leverage the output related results achieved by the BESD project with the specific objective to operationalize the PES policy and institutional framework and to implement the proposed key actions. The staff will also ensure an integrated and coherent approach across environmental projects related to sustainable financing options proposed by the BESD project.
- **Key roles of SB4 national officer (Energy) linked to output 3:** The SB4 national officer is to ensure continued efforts to mainstream solar energy as an affordable, reliable and clean energy for rural households and agriculture. Another key role is to improve and expand ongoing work on energy efficiency in residential and commercial buildings considering that buildings are expected to consume a major share of the total final energy. This person will coordinate activities, including technical support, among the projects that promote sustainable energy and energy efficiency. Also acts as a liaison officer to facilitate knowledge sharing and to enable replication and scaling up of workable models e.g. solar based DC micro-grids.

Combatting Marine plastic litter project funded by Japan (January 2021 to June, 2023)

For the output 2 activities, UNDP Cambodia will ensure the sustainability and scaling up of results built by the BESD project through a new project funded by Japan. This project will build on earlier efforts supported by the BESD project to reduce plastic waste in Cambodia. In alignment with the priority actions supported under the BESD project and identified by a draft National Circular Economy Policy and Action Plan, this new project aims to further develop new regulations on single-use plastic, to raise awareness to promote 4Rs (Refuse, Reduce, Reuse and Recycle) of plastic, and to promote business innovations for plastic recycling and waste to energy interventions.

Annex 1: Updated Integrated Result Framework (BESD and Tree Planting) (2019-2021)

<p>Intended Outcome as stated in the UNDAF/Country Programme Results and Resource Framework: UNDAF Outcome 3: By 2023, women and men in Cambodia, in particular the marginalized and vulnerable, live in a safer, healthier, more secure and ecologically balanced environment with improved livelihoods, and are resilient to natural and climate change related trends and shocks.</p>
<p>Outcome indicators as stated in the Country Programme Results and Resources Framework, including baseline and targets: 3.2.3: <i>The extent to which natural resources are protected, conserved and sustainably managed as measured in: (i) Percentage of forest cover; (ii) Percentage of protected area</i> (i) Baseline (2016): 48.14% Target (2023): TBD; (ii) Baseline (2018): 41% Target (2023): TBD 3.3.1: <i>Number of multi-sectoral policies, legislation, plans and strategies relevant to sustainable production and living, which are developed/updated</i> Baseline (2018): 7 Target (2023): 15</p>
<p>Applicable Output(s) from 2018-21 Strategic Plan: Output 1.4.1: <i>Solutions scaled up for sustainable management of natural resources including sustainable commodities and green and inclusive value chain</i> Indicator: <i>Natural resources that are managed under a sustainable use, conservation, access and benefit sharing regime: a) Area under sustainable forest management (hectares)</i> Baseline (2017): 776.046 ha (under CF and CPAs); Target (2020): 1 million ha Output 1.5.1: <i>Solutions adopted to achieve universal access to clean, affordable and sustainable energy</i> Indicator <i>Number and proportions of households benefiting from clean, affordable and sustainable energy access disaggregated by a) women-headed, b) in rural areas, c) in urban and peri urban areas</i> Baseline (2017): 0; Target (2020): a) 50 HH, b) 200 HH, c) NA.</p>
<p>Project title: Towards Environmental Sustainability and Atlas Project Number: 00085640 Revised title by the 1st Board Meeting: Building an Enabling Environment for Sustainable Development (BESD) in Cambodia</p>

EXPECTED OUTPUTS	OUTPUT INDICATORS	DATA SOURCE	BASELINE		TARGETS ¹⁹			DATA COLLECTION METHODS
			Value	Year	2019	2020	2021 (Jan-June)	
Output 1 CBNRM institutions strengthened and financial resources mobilised for sustainable NRM	<p>1.1. Extent to which CBNRM institutions are strengthened</p> <p>Measured on a three-point scale: 1= Some extent: Initial fund collection and distribution mechanism agreed 2= Moderate extent: PES operational mechanisms (including fund collection & management, implementation strategies and arrangements, and monitoring system) designed 3=Great extent: PES operational mechanisms implemented</p>	Project report (annual and quarterly report)	0	2018		1	2	Reviews of pilot documents and field monitoring, meeting minutes
	<p>1.2. Number of total and female headed households benefit from CBNRM</p>	Project report (annual and quarterly report)	0	2018		30	50	Reviews of pilot documents and field monitoring

¹⁹ Targets are cumulative. Targets in 2021 and 2022 are subject to funding availability. The targets in 2021 are aimed to complete by June.

EXPECTED OUTPUTS	OUTPUT INDICATORS	DATA SOURCE	BASELINE		TARGETS ¹⁹			DATA COLLECTION METHODS
			Value	Year	2019	2020	2021 (Jan-June)	
	<p>1.3. Extent to which pilot PES approaches are operationalised for Kulen Mountain</p> <p>Measured on a three-point scale: 1= Some extent: Initial fund collection and distribution mechanism agreed 2= Moderate extent: PES operational mechanisms (including fund collection & management, implementation strategies and arrangements, and monitoring system) designed 3=Great extent: PES operational mechanisms implemented</p>	-Project report (annual and quarterly report)	NA	2018	1	2	3	Reviews of documents
	<p>1.4. Extent to which pilot PES approaches are operationalised for Kbal Chay</p> <p>Measured on a three-point scale: 1= Some extent: Initial fund collection and distribution mechanism agreed 2= Moderate extent: PES operational mechanisms (including fund collection & management, implementation strategies and arrangements, and monitoring system) designed 3=Great extent: PES operational mechanisms implemented</p>	-Project report (annual and quarterly report)	0	2018	1	2	3	Reviews of documents
	<p>1.5. Extent to which a national PES policy is developed</p> <p>Measured on a three-point scale: 0= None: No initial drafts 1= Moderate extent: Initial assessment and analysis 2= Great extent: final draft of policy ready for endorsement</p>	-Project report (annual and quarterly report) -Policy measures	0	2018	0	1	2	Reviews of documents, meeting minutes

EXPECTED OUTPUTS	OUTPUT INDICATORS	DATA SOURCE	BASELINE		TARGETS ¹⁹			DATA COLLECTION METHODS
			Value	Year	2019	2020	2021 (Jan-June)	
	<p>1.6. Extent to which gender concerns are integrated into the proposed policy measures</p> <p>Measured on a three-point scale: 1= Some extent: relevant policy documents refer to their possible impacts on men and women 2= Moderate extent: relevant policy documents refer to their possible impacts on men and women and include some measures to ensure positive impacts 3=Great extent: relevant policy documents include full measures and budget to ensure positive impacts</p>	- Project report (annual and quarterly report) Policy measures	0	2018	1	2	2	Reviews of documents
	<p>1.7. Volume of financial resources mobilized to support proposed measures, measured in USD</p>	- Project report (annual and quarterly report)	0	2018	0	0	100k	Reviews of documents,
	<p>1.8 Number of people with improved awareness on benefits of biodiversity and PES approach</p> <p>Measured by the number of people outreached by communication materials</p>	-Project progress report -Communication materials such as posters, policy briefs, case studies and social media posts related to PES in Kulen and Kbal Chhay -Video clips on PES	4	2019	NA	NA	300	-Review progress report and communication materials (make available on Cleaning House Mechanism website)
Tree-planting as covid-19 response and income generation to rural population	<p>Activity 1.9: Tree planting</p> <p>1.9.1 Number of families being enrolled in income generating activities such as tree-planting, maintenance of forest plantation and nursery development (activity 1.8)</p>	- Project report (annual and quarterly report)	0	2020	NA	1600	0	Reports from partners
	<p>1.9.2 Number of Hectares new tree-plantation and number of Ha maintained</p>	- Project report (annual and quarterly report)	0	2020	NA	80	160	Reports from partners
	<p>1.9.3 Dollars paid out as cash compensation for work under activity 1.8</p>	- Project report (annual and quarterly report)	0	2020	NA	USD100,000	USD210,000	Reports from partners

EXPECTED OUTPUTS	OUTPUT INDICATORS	DATA SOURCE	BASELINE		TARGETS ¹⁹			DATA COLLECTION METHODS
			Value	Year	2019	2020	2021 (Jan-June)	
Output 2 Waste reduced, recycled and reused through application of circular economy models	2.1. Extent to which a pilot is designed and implemented (municipality) Measured on a three-point scale: 0= None extent: Pilot is not designed 1= Moderate extent: Business model for pilot is designed, proposed, and consulted on with stakeholders 2=Great extent: Pilot is designed and implemented, with a business model tested and resulting data collected	- Project report (annual and quarterly report)	0	2018	0	1	2	Document reviews Field monitoring
	2.2. Extent to which a circular economy pilot is designed and implemented (industry) Measured on a three-point scale: 0= None extent: Pilot is not designed 1= Moderate extent: Business model for pilot is designed, proposed, and consulted on with stakeholders 2=Great extent: Pilot is designed and implemented, with a business model tested and resulting data collected	- Project report (annual and quarterly report)	0	2018	0	1	1	Document reviews Field monitoring
	2.3. Number of people outreached for raising awareness on appropriate waste management Measured by number	- Project progress reports	0	2018	200	400	600	Document reviews
	2.4. Extent to which enabling policy measures are developed for the support of circular economy Measured on a three-point scale: 0= None: 1= Moderate extent: an initial set of policy measures are proposed 2= Great extent: agreed set of measures receive government endorsement	- Project report (annual and quarterly report) - Policy measures	0	2018	0	1	2	Document reviews

EXPECTED OUTPUTS	OUTPUT INDICATORS	DATA SOURCE	BASELINE		TARGETS ¹⁹			DATA COLLECTION METHODS
			Value	Year	2019	2020	2021 (Jan-June)	
	2.5. Extent to which a private sector engagement strategy is designed and implemented Measured on a three-point scale: 0= none 1= Moderate extent: Strategy is designed but not implemented 2= Great extent: Strategy is operationalized including an online platform and pilot initiative	- Project report (annual and quarterly report) - Policy measures	0	2020	0	1	2	Document Reviews
	2.6. Volume of financial resources mobilised to support proposed waste management measures, measured in USD	- Project report (annual and quarterly report)	0	2018	0	500K	500K	Document reviews Field monitoring
Output 3 Improved access to clean, affordable and sustainable energy for rural communities	3.1 Solar PV energy business models developed and rolled out to provide electricity, incl. for productive use Measured by number of business models	Project report (annual and quarterly report)	0	2018	0	2	2	Reviews of documents Field monitoring
	3.2 Number of rural households benefit from solar PV system installed for access to energy incl. for productive use Measured by number households (male and female headed)	Project report (annual and quarterly report)	0	2018	0	100	150	Reviews of documents, meeting minutes
	3.3 Number of female headed households benefit from solar PV system installed for access to energy, water and productive use Measured by number of households (female headed only)	Project report (annual and quarterly report)	0	2018	0	25	50	Reviews of documents, meeting minutes
	3.4 Number of technicians with enhanced capacities to design, install and maintain solar PV as per installation standards/guidelines (to be prepared) Measured by number of male and female technicians	Project report (annual and quarterly report)	0	2018	0	20	50	Reviews of documents, meeting minutes
	3.5 Number of community members with improved awareness on benefits of solar and appropriate use of solar technologies	- Project report (annual and quarterly report)	0	2018	0	40	60	Reviews of documents, meeting minutes

EXPECTED OUTPUTS	OUTPUT INDICATORS	DATA SOURCE	BASELINE		TARGETS ¹⁹			DATA COLLECTION METHODS
			Value	Year	2019	2020	2021 (Jan-June)	
	Measured by number of community members							
	3.6 Number of National quality standards/guidelines for solar PV technologies developed	- Project report (annual and quarterly report) - Policy measures	0	2018	0	1	1	Reviews of documents
	Measured by national quality standards/guidelines							
	3.7 Localized energy efficiency design guidelines developed (Yes/No)	- Project report (annual and quarterly report)	0	2020	NA	NA	Yes	Reviews of documents, meeting minutes
	3.8: Extent to which EE solutions in public buildings are designed and implemented	- Project report (annual and quarterly report)	0	2020	NA	NA	1	Reviews of documents, meeting minutes
	Measured on a three-point scale: 0= None extent: No solutions designed 1= Full extent: EE solutions designed, proposed, and implemented							
	3.9 Number of people with improved awareness on energy efficiency	- Project report (annual and quarterly report)		2020	NA	NA		Reviews of documents, meeting minutes
	Measured by the number of people outreached by communication materials							
	a. 2 Videos		a. 0				a. 500	
	b. 1 Factsheets		b. 0				b. 500	
	c. 1exhibition		c. 0				c. 50	
	d. 1 business talk		d. 0				d. 50	
	e. 2 consultative workshops		e. 0				e. 100	

Annex 2: Proposed budget for 2021 (January to June)

Activities		Total budget (USD)	Q1	Q2
Output 1:	CBNRM institutions strengthened and financial resources mobilized for sustainable NRM			
Activity 1.1	Expansion and strengthening of CBNRM	68,242.00	X	X
Activity 1.2	Operationalization of payment for Ecosystem Services	65,252.00	X	X
Activity 1.3	Development of strategic Communication strategy and information materials	2,036.00	X	X
Activity 1.4	Development of scaling-up strategies including programming and new partnership	2,036.00	X	X
Activity 1.5	Monitoring and Evaluation	4,000.00	X	X
	GMS	11,325.28		
	Total output 1	152,891.28		
Output 2:	Waste reduced, recycled and reused through the application of circular economy model.			
Activity 2.1	Circular economy pilot: Municipality 1)- Kep by NCD DS and 2)- Industrial pilot	104,368.00	X	X
Activity 2.2	Circular economy pilot: Industrial level	19,288.00	X	X
Activity 2.3	Development of strategic Communication strategy and information materials	9,200.00	X	X
Activity 2.4	Development of enabling policies and measures	11,716.00	X	X
Activity 2.5	Development of signed-up strategies including programming and new partnership	30,216.00	X	X

Activity 2.6	Monitoring and Evaluation	3,000.00	X	X
	GMS	14,223.04		
	Total output 2	192,011.04		
Output 3:	Improved access to clean, affordable, and sustainable energy for the rural poor			
Activity 3.1	Solar energy for electricity supply and increasing resilience of rural communities	20,690.00	X	X
Activity 3.2	Building technical capacity for installation of solar, and their maintenance	18,190.00	X	X
Activity 3.3	Strategic communication and awareness raising	48,140.00	X	X
Activity 3.4	Development of enabling policies and measures	77,095.00	X	X
Activity 3.5	Development of scaling-up strategies including programming and new partnership	30,595.00	X	X
Activity 3.6	Monitoring and Evaluation	3,000.00	X	X
	GMS	15,816.80		
	Total output 3	213,526.80		
PMC	Project Management Cost			
	Staff cost, Local consultant under NCSD	36,890.00	X	X
	Office supplies, bank charge, communication, materials and goods, vehicle maintenance (NCSD)	4,120.00	X	X
	Salary cost, Local consultant for communication, DPC cost sharing (UNDP)	36,970.00	X	X
	Office supplies, bank charge, communication, IT equipment, office cost sharing (UNDP)	3,480.00	X	X
	Meetings, Travel (UNDP)	3,327.86	X	X

	GMS	6,783.03	X	X
	Total PMC	91,570.88		
	Grand total	650,000.00		

Budget summary by responsible parties

Responsible parties	Amount
NCSD (Including all grants under NCSD)	250,680.00
GDLC/MOE	42,000.00
GDEP/MOE	40,000.00
DBD/NCSD	58,000.00
DGE/NCSD	50,680.00
NCDDS	20,100.00
MME	30,950.00
UNDP	348,270.00
Total	650,000.00

Please refer to the attached excel file for the detailed annual work and budget plan.

Certificate Of Completion

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