CTF PRIVATE SECTOR PROPOSAL

Name of Project or Program	ADB Thailand Private Sector Renewable Energy Program [the Program]	
CTF amount requested	<u>Investment</u> – up to US\$99.5 million equivalent in loans and guarantees <u>Implementation and supervision budget</u> - US\$500,000	
Country targeted	Thailand	
Indicate if proposal is a Project or Program	Program. The proposed program comprises a pipeline of renewable energy projects being developed by the private sector. The program will catalyze the demonstration, replication, and scale-up of utility scale projects in Thailand.	

As part of the development of this program proposal ADB has already begun to engage with clients for the proposed subprojects. To maintain credibility in the market, ADB could only engage further if there is confirmation that funds would be available to disburse when called by the client. For this reason, per paragraph 34 of the CTF Financing Products, Terms and Review Procedures for Private Sector Operations, dated on March 17, 2010 and approved on March 29, 2010, ADB is requesting the CTF Trust Fund Committee to approve and direct the Trustee to provide ADB with an unconditional letter of commitment for the entire amount of funds required for the Program. Such approval would allow for the upfront transfer of up to the entire amount of the Program from the Trustee to the ADB, based on the confirmation of availability of US \$100 million by the Trustee as evidenced in Annex B. The transfer would be subject to (a) approval by the ADB Board of Directors of the investment sub-projects, and (b) submission of a transfer request to the Trustee including the anticipated closing date of the relevant sub-projects.

DETAILED DESCRIPTION OF PROGRAM

Fit with Thailand's Country Investment Plan (CIP) and CIP Update (CIP-U)

This proposal is consistent with Thailand's Country Investment Plan (CIP) which was endorsed by the CTF Trust Fund Committee (TFC) on 2 December 2009 and Thailand's Country Investment Plan Update (CIP-U) which was endorsed by the CTF TFC in March 2012. Thailand's CIP and CIP-U describe the country's GHG emissions profile and indicate that energy efficiency (EE) and renewable energy (RE) are key strategic areas where Clean Technology Fund (CTF) resources can be applied, including through direct private sector initiatives. The Thailand CIP/CIP-U specifically endorses the multilateral development banks to support private sector RE projects.

The Government of Thailand (GoT) is committed to mitigating climate change. Among the developing countries, Thailand has developed a "National Strategy on Climate Change (2008-2012)" approved by the Cabinet in January 2008, and identified greenhouse gas reduction in the energy sector through clean technology implementation as one of its core approaches in its climate change mitigation agenda. Thailand's 11th National Economic and Social Development Plan (NESDP) also aims to build energy security to support the country's path towards sustainable development and low carbon economy.

The GoT remains fully committed to its development policy framework for energy security, climate change, environmental management, and public health. The general approach and overall objectives for low-carbon development presented in the CIP and CIP-U remain valid. GoT is committed to reducing energy intensity and greenhouse gas (GHG) reductions through a comprehensive policy framework.

The government is also focused on its policy of having alternative energy as a national agenda through encouraging production and use of indigenous renewable resources. The Electricity Generating Authority of Thailand (EGAT) Power Development Plan 2010 – 2030 (PDP), released in 2010 has been found to be fully consistent with the

 1 GoT targets the energy production sector to reduce CO_2 emissions intensity to 0.42 kg CO_2 /kWh by the end of the 11^{th} NESDP (2012-2016).

earlier RE Development Plan covering the 2008 to 2022 planning period. The PDP calls for electricity supplies to be progressively decarbonized, requiring the continued addition of clean energy to the generation mix, complemented by conservation and efficiency gains. The goal of decarbonization requires that all future fossil electric power generation capacity additions be completely offset by electricity produced through the utilization zero-carbon electric power generation methods, coupled to an additional 25% decrease in GHG intensity. This decarbonisation objective requires the effective neutralization of GHG emissions from approximately 12,000 megawatts (MW) of existing and future coal-fired generating plants by 2030, as shown in Figure 1. To this end, the Ministry of Energy (MOE) through the Department of Alternative Energy Development and Efficiency (DEDE) is preparing an updated RE Development Plan with a revised target for alternative energy use to increase to 25 % of total energy consumption in the year 2022 from the previous target of 20%.

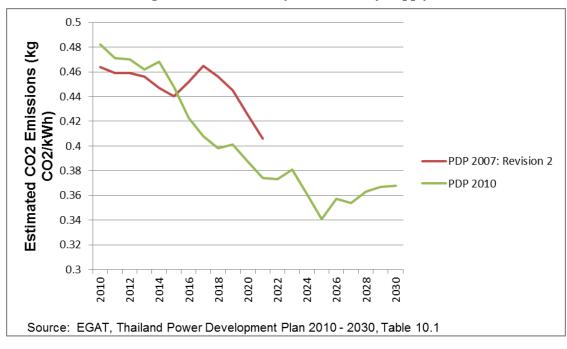


Figure 1. GHG Intensity for Electricity Supply.

In a recent statement, the Thai Council of Ministers approved as policy, the utilization of sustainable energy sources to resolve the energy requirements of the country with a target of replacing 25% of the energy generated through the use of fossil fuels with clean energy within the next decade. The GoT has further identified RE industries, among others, as a "new industry" sector to foster the creation of income from domestic demand and increased employment.

As such, CTF support will have the transformational impact of scaling up utility-scale solar, wind, and waste-toenergy (WTE) projects in the country, which would substantially curb Thailand's emission growth curve. Private sector RE projects will establish additional benchmarks for cost and performance, which will facilitate institutional and policy reforms, and promote economies of scale that could ultimately make the cost of RE-based power development more competitive with fossil-fuel based power sources.

Overview of the ADB Renewable Energy Program

The program represents an initiative of the ADB, as implemented in part by the Private Sector Operations Department (PSOD), towards accelerating the participation and scale-up of investments by the private sector, with

² Policy Statement delivered by Prime Minister Yingluck Shinawatra to the National Assembly on 23 August 2011. Accessed on 10 October 2011 from http://www.mfa.go.th/internet/document/govPolicyEng.pdf

particular focus on the development of utility-scale solar, wind, and WTE power generation projects. Specifically, the program targets the utilization of CTF funds along with ADB financing support to implement candidate projects located in various provinces within the country being considered by PSOD for further development. The completion of these projects has been expected to provide Thailand with a total aggregate capacity addition amounting to approximately 520 MW while diversifying the primary energy mix and reducing GHG emissions.

Financial support for most of the individual projects included in the program will be provided on a non-recourse project finance basis with revenue streams generated from the supply of RE electricity to EGAT and the Provincial Electricity Authority (PEA) under standard power purchase agreements (PPAs) with additional regulatory supports, such as feed-in tariffs ("adders"), provided under the Small Power Producers (SPP) and Very Small Power Producers (VSPP) Program.

Under the ADB initiative, PSOD has recently closed financing on two utility-scale solar projects with additional financial support in the form of grant resources from other fund sources and commenced with the construction of the facility. Additional private sector investments on projects of similar nature are currently under consideration by PSOD, with more prospective projects in the pipeline.

While there has been increased interest in entering the RE market, private developers implementing these "pioneer" projects continue to face additional costs associated with state-of-the-art RE technologies and systems and first-mover risk associated with deployment of these RE systems in Thailand. Regulatory support, though significant, has not been sufficient to mobilize capital financing at the scale necessary to meet RE electricity objectives as proposed by the GoT (as discussed in the original CIP and the CIP-U). In order to overcome these barriers, ADB provided grant resources to assist the project owners in project development and financing enhancing overall financial profile of these projects. Additional concessional funds are being sought from CTF to support a much larger investment pipeline and accelerate the growth of the sector to a sustainable scale.

In a wider scope, the program seeks to establish a track record of completed projects and investments, with high replication potentials and demonstrable developmental effects, to facilitate private sector participation and further catalyze market transformation within a realistic economic and technical context.

Thailand's GHG emissions profile

Thailand has been one of the fastest growing economies in Asia during the last decade, with GDP averaging 7% annually, even allowing for the economic slowdown experienced from 2007 to 2009. The growth in economic activity from 1990 to 2007 correlates to a higher demand for energy, met primarily by increasing energy production and electric power generation capacity, resulting to a corresponding growth in total emissions, per capita emissions, and per capita energy use (Figure 2).

The energy demand has been estimated to increase at an average rate of 4.2% annually from 146,182 gigawatthours (GWh) in 2009 to 347,947 GWh in 2030. Energy sector related emissions based on the 2000 National GHG Inventory in Thailand reached 159.38 million tons of CO_2 equivalent accounting for 69.6% of the total Thai national CO_2 emissions, with more than 40% of the energy sector related emissions attributed to activities related to energy production and electric power generation.³

In addition, studies conducted in 2010 estimated the annual rate of CO₂ emissions from the combustion of fossil fuels in thermal power plants to be 172.04 kilotons of CO₂ per year, with a thermal plant producing 0.31 to 1.03 kilograms of CO₂ for every kilowatt-hour of electricity generated depending on the type of fuel used.⁴

RE Market Description

Thailand is endowed with abundant renewable energy resources—biomass/biogas, small-scale hydropower, solar, and WTE —with estimated total potential of 57,000 MW. Less than 3% of this potential has been developed. As

³ Office of Natural Resources and Environmental Policy and Planning, Ministry of Natural Resources and Environment, 2010. *Thailand: Second National Communication under the United Nations Framework Convention on Climate Change*. Bangkok, Thailand.

⁴ N. Parkpoom. 2010. Generation Planning in the Context of Carbon Dioxide Emission and Associated Risk in the Thailand Power System. Bangkok, Thailand. http://www.aesieap0910.org/upload/File/PDF/4-Technical%20Sessions/TS07/TS0703/TS0703_FP.pdf

of 2010, total alternative energy consumption was estimated at 7,148 kilotons oil equivalent, of which 62% was in the form of heat, 22% in the form of natural gas for transport, 6.6% biodiesel, and 4.6% ethanol; only 4.3% was in the form of electricity.⁵

Solar potential accounts for the vast majority of RE resources, with aggregate estimated generation potential of more than 50,000 MW. Wind potential is estimated at 1,600 MW. WTE is estimated at about 400 MW. In 2009, GoT launched its 15-year Renewable Energy Development Plan and targets to increase the share of RE from 6.4% to 20% in 2022. Specifically, it originally targets a 500 MW capacity to be supplied by solar power. As of July 2011, the installed power generation capacity in Thailand was 31,447 MW with VSPP's contributing less than 1% of the total.⁷

Thailand's plentiful solar resources make it an ideal location for solar photovoltaic (PV) energy installations. Solar development has been limited to stand-alone decentralized solar PV systems, with utility scale installations still in the early development stage. Wind and WTE are in early stages of exploitation. Several projects are under development, but none have been completed. Despite the favourable presence of feed-in tariffs ("adders"), the RE sector remains underdeveloped (with the exception of first-generation renewable fuels). As discussed in the original CIP and the CIPU, the adders have not been sufficient to mobilize financing at the scale necessary to meet the renewable electricity objectives.

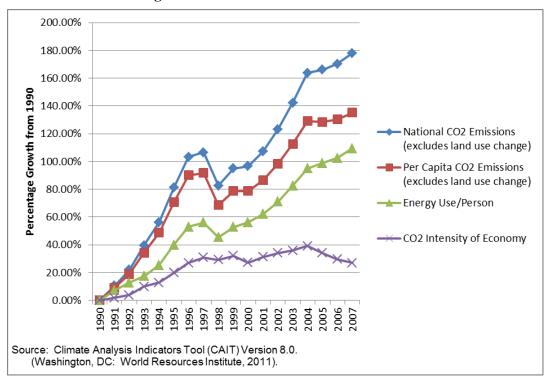


Figure 2. Thailand's GHG Emission Profile

Sector and project level barriers

While there is great potential, the renewable electricity sub-sector is still in its nascent development stage. Challenges to large-scale development include lack of long-term financing, higher upfront capital costs, and higher back-ended risk premium for new technology deployment.

⁵ Department of Alternative Energy Development and Efficiency, 2010. Thailand Energy Statistics (Preliminary) 2010. p.10.

⁶ Department of Alternative Energy Development and Efficiency, 2008. Fifteen-Year Alternative Energy Plan of Thailand.

⁷ Source: Energy Planning and Policy Office (EPPO). http://www.eppo.go.th/info/stat/T05_01_01.ppt

ADB's long-term local currency loan combined with upfront monetization of expected Certified Emission Reductions (CERs) and CTF support will help to provide sufficient amortization profile and tenor needed in order to reach financial close and achieve economic and financial viability of RE generation plants.

Thailand's increasing demand for electricity, abundant RE resources, available land area for solar and wind installations, favorable feed-in tariffs ("tariff adders"), and grid connection readiness encourage RE power development investments in the country. The regulatory and financial support for RE projects are expected to sustain projects in the long term but, in the short and middle-term, there is still need for concessional funding and risk mitigation mechanisms to make sure that first-mover projects move from planning to commissioning and operation phase. The limited experience of grid-connected, utility-scale RE power projects in Thailand and the still high perceived risk of these resources and technologies necessitate CTF support.

Summary of the Program and use of CTF funds

The Program falls under the GoT's Alternative Energy Development Plan and will support GoT's objectives for alternative energy development and climate change mitigation. The Program will help clean energy projects move towards implementation stage, and will have a catalytic effect with respect to mobilizing additional development and expansion in the solar, wind, and WTE sub-sectors. CTF funds may be structured as loans or guarantees alongside ADB. ADB would ensure that all projects also comprise funding from at least one commercial bank in order to achieve a catalytic effect over the medium term as local banks get more familiar assessing credit risk of RE projects.

The Investment Component

The Program comprises solar, wind, and WTE projects across several provinces in Thailand, with aggregate capacity of up to 520 MW. Most of the projects will be financed on a project finance basis. Individual projects may benefit from the upfront financing of CERs by ADB's Carbon Market Initiative (CMI). The CMI team will work on the Clean Development Mechanism (CDM) component with Sponsors, in parallel with the ADB financial assistance discussions.

Market Transformation

The CTF supported investments will help Thailand hasten and expand private sector investment in RE infrastructure to facilitate the attainment of targets contained in the GoT's Alternative Energy Development Plan.

By demonstrating the commercial viability of private sector utility-scale energy generation projects, the Program with assistance from CTF has been envisaged to bridge the gap between perceived and actual risks associated with investments in a relatively new industry, serving as a catalyst towards encouraging the participation of other private sector developers, investors, and financial institutions in subsequent power development projects utilizing solar, wind, and WTE technologies.

The Program presents a further transformational role by enhancing sectoral capacity in implementing RE and WTE projects by establishing replicable business models and performance benchmarks within the technical and economic realities of these RE technologies in the Thai context. These models and metrics may also provide a suitable framework for other ADB developing member countries (DMCs) in the development and conduct of RE based power projects.

As mentioned above, ADB would ensure that at least one commercial bank also participates in the financing of each project (albeit with shorter debt tenors) in order to achieve a catalytic effect. As such, the support of CTF and the potential demonstrable effects triggered by implementing the Program offer added assurance for local financial institutions to lend to future RE projects, which in turn will sustainably accelerate the growth of the sector and subsequently serve as a mechanism to achieve GoT's long-term development objectives.

Terms of the CTF funds

The program will cover multiple RE projects which face similar development and implementation barriers as discussed above and in the original CIP and CIP-U. Detailed financing plans will vary from project to project.

FIT WITH INVESTMENT CRITERIA

i) Potential GHG Emissions Savings:

Emissions reductions are estimated as follows:

Estimated GHG Reductions ^a					
Total GHG reductions directly supported by CTF		Total GHG Reductions with potential replication and scale up			
Wind power projects	643,860 tons / year CO ₂ e	1250 MW ^b wind at 30% output	2,299,500 tons / year CO ₂ e		
Waste-to-energy projects	245,280 tons / year CO ₂ e	350 MW c waste-to- energy at 80% output	1,716,960 tons / year CO ₂ e		
Solar power projects	183,960 tons / year CO ₂ e	5000 MW ^d solar at 25% output	7,665,000 tons / year CO ₂ e		
Total	1,073,100 tons / year CO ₂ e	Total	11,681,460 tons / year CO ₂ e		

^a GHG reductions assume that RE displaces fossil power in the grid at 0.7 tons CO₂e/MWh. Using an average grid emissions factor of 0.55 tons CO₂e/MWh, the total direct emissions reductions would be about 843,150 tons CO₂e/year.

ii) Cost-Effectiveness:

Based on the table above, cost effectiveness assuming \$100 million in CTF cofinancing:

Cost Effectiveness based on total GHG reductions directly supported by CTF	Cost effectiveness based on Total GHG Reductions with potential replication and scale up
CTF \$93 ton / year CO ₂ e ~ CTF \$4.66 / ton assuming 20 year project lifetime	CTF \$8.56 ton / year CO ₂ e ~ CTF \$0.43 / ton assuming 20 year project lifetimes

iii) Demonstration Potential at Scale:

The Program targets the acceleration and scale-up of investments by the private sector, with particular focus on the development of utility-scale solar, wind, and WTE power generation projects, through the use of CTF funds along with ADB financing support. The completion of individual projects under the Program will have high demonstration impact by developing a replicable model for national and regional independent SPPs and VSPPs which generate electricity from RE resources and by establishing a track record of completed projects that will reduce the perception of risk, resulting in a significantly lower cost of capital and in turn enable future projects to achieve financial close and sustainability through domestic regulatory support (feed-in tariffs/adders) alone.

With the reduction of financial and market risks, the Program anticipates the further participation of private sector project developers and additional end users at scale.

Based on initial estimates for the Program, the installation and operation of an additional renewable generating

^b Assumes replication and scale-up potential is limited to total of 1600 MW potential identified in the AEDP (see Table 8 of original CIP)

^c Assumes replication and scale-up potential is limited to total of 400 MW potential identified in the AEDP (see Table 8 of original CIP)

^d Assumes replication and scale-up potential is 10% of total of 50,000 MW potential identified in the AEDP (see Table 8 of original CIP)

capacity amounting to approximately 520MW will result in the avoided GHG emissions estimated at 1 million tons of CO_2 equivalent per year at the end of a five-year period commencing of the date of operation. Given a 10:1 replication potential, the Program further estimates the potential avoided GHG emissions to amount to about 11 million tons of CO_2 equivalent per year.

iv) Development Impact:

The primary development impact from the implementation of the Program includes the diversification of Thailand's energy mix through the addition of RE-based generating capacity and demonstration of the viability of utility-scale private sector RE power generation projects. The completion of these projects will greatly assist in propelling the country to achieve the target of having 20.3% of the primary commercial energy supply coming from alternative and renewable resources by 2022, which ensures the access of the Thai people to secure, reliable, and sustainable sources of electricity, reduced reliance on fossil fuels, and a lower exposure to commodity and exchange rate risk. Specifically, the demonstrable outcomes of the Program are the increased generation of electricity supplied by the use of solar, wind, and WTE resources through the installation, commissioning and operation of up to 520 MW of RE power generation facilities and a reduction in GHG emissions. Other specific performance indicators to quantify developmental impacts shall be finalized on a project-by-project basis.

The Program will enable the development and completion of private sector RE projects that would otherwise not be implemented by reducing financial and market risks associated with "pioneer" projects by establishment of a track record of completed projects and investments that in turn would further capacitate the private sector and catalyze market transformation. As a result, the anticipated increase in participation by the private sector through project development and scale-up of investments should initiate direct and indirect prospects for the creation of employment opportunities.

The environmental co-benefits of improved air quality due to reduced emissions of local pollutants (NOx, SO₂, particulate matter, mercury and other heavy metals) from avoided coal-fired power plants, minimal waste, reduced noise, and a lower carbon footprint provide healthier and more sustainable living condition for the people of Thailand in consonance with the goals of the 11th National Economic and Social Development Plan. Moreover, the Program also supports the GoT's long-term objective, as contained in the CIP and CIP-U, to reallocate CTF resources to the private sector.

The implementation of the Program will be expected to have a direct effect on local poverty reduction within the vicinity of individual projects. During construction and eventual operation of electricity generation facilities, the employment opportunities for local skilled/unskilled labor should increase the level of income for men and women who qualify for employment. In turn, the added income will increase consumption of goods/services and contribute to the economic activities within the project area. In addition, the Program will be expected to indirectly increase the economic well-being in individual project areas by providing a clean and reliable source of electricity that will serve as an investment multiplier in the production of goods and delivery of services. Further discussions on specific performance indicators for measuring direct and indirect poverty reduction impacts will be finalized on a project-by-project basis.

On a wider scale, the high level of replication potential and the scalability of the Program indicate a good probability of extending developmental effects and the spillover of environmental and economic benefits to countries within the Greater Mekong Subregion.

v) Implementation Potential:

As of January 2012, ADB has closed financing for two utility-scale solar projects which are now under construction, and additional projects are presently under consideration. Individual RE projects will enter into standard PPAs with EGAT or PEA, fixed-price turnkey Engineering, Procurement and Construction (EPC)

arrangements for plant installations, and interconnection arrangements with EGAT or PEA. The operation and maintenance of the individual projects will be undertaken by the sponsors or qualified operators. These activities are significantly less complex than conventional power plants and are not expected to present major technical challenges.

The CIP-U supports the acceleration and expansion of private sector investment in clean energy infrastructure in the country. The Program will play a significant role in achieving the updated CTF targets for Thailand. The ADB and CTF assistance will play a crucial role in helping individual projects to obtain financial close and appropriate long-term financing.

vi) Additional Costs & Risk Premium:

As discussed above, the RE projects to be supported by the Program entail additional costs and risks. CTF funding will be structured to achieve the envisioned market transformations with minimum concessionality appropriate to the needs of the individual projects.

vii) Financial Sustainability

The viability of individual projects comprising the Program will be ensured primarily through the off-take pricing arrangements in the PPAs negotiated for each project, with additional revenues from regulatory support (supplemental feed-in tariffs) provided through the SPP and VSPP Program of the GoT and from CERs from carbon trading in the long-term.

CTF cofinancing will be structured to enhance the financial viability of the project by reducing the weighted average cost of capital.

viii) Effective Utilization of Concessional Finance

The total cost of projects to be supported by the Program is estimated to be \$1 billion. The demonstration impact is expected to facilitate replication and scale-up via other solar, wind, and WTE power projects. CTF cofinancing for individual projects will be priced in accordance with minimum concessionality principles.

ix) Mitigation of Market Distortions

The Program will "crowd in" commercial investment and will not distort the market, as there is still limited private sector investment in the RE market at present. ADB will ensure that at least one commercial bank participates in the financing of each project (albeit with shorter debt tenors) in order to achieve a catalytic effect. ADB's and CTF's longer tenor will reduce risks for all financing parties because annual debt service payments are reduced and debt service coverage improved. Lower risk for debt service will play a crucial role in mobilizing commercial bank funding for RE projects with intermittent revenue generation, such as solar and wind power.

The GoT remains committed towards continuing support to RE development via public sector financing through EGAT and PEA.

x) Risks

The major implementation risks and proposed mitigants for the Program are as follows.

(i) <u>Solar radiation and wind variability risk.</u> Solar panels should be installed in a location with good and reliable sunlight since the intensity of solar irradiance impacts the capacity factor. Solar plant design will be based on insolation data available from GoT agencies, US NASA, METEONORM, and other sources. Wind farm design will

be based on at least 1 year of site-specific wind mapping data, consistent with industry best practice. Individual projects with be subject to due diligence on renewable resource availability, by qualified technical advisors.

- (ii) Cost of installation / technology risk. Key challenges for solar power generation projects are managing high upfront costs for the solar PV panels and ensuring the panels' efficiency over the long-term in converting solar radiation to electricity in the specific climatic conditions of the project site. Unlike conventional energy projects where ongoing fuel expenses are a key driver of commercial viability, solar power projects' viability is primarily a function of capital, financing costs and variability of power generation. Therefore, choosing the right solar PV technology is important in order to strike a balance between cost and efficiency. For individual projects, qualified technical advisor will review and confirm the reliability and durability of the selected technology, the adequacy of the panel supplier's performance warranties, the project costs, as well as construction and interconnection arrangements. Wind power technology is subject to lesser perceived risks, as the available technologies for the wind farms under consideration are well-established, although the intermittency of power generation has to be carefully assessed. Wind power projects and WTE projects will be subject to similar technical advisor review and assessment as required.
- (iii) <u>Off-take risk.</u> The electricity generated from each project will be purchased by EGAT or PEA, so the ability of both to fulfil its obligations under the PPAs will be carefully reviewed. EGAT and PEA creditworthiness, GoT support, the reasonableness of the PPAs, and the fundamental demand-supply in the power market will be examined during the due diligence.
- (iv) <u>Legal and regulatory risk</u>. The legal and regulatory environment pertaining to the SPP and VSPP programs and to the power market in general in Thailand may change over the course of the Program. Legal due diligence will include a review of the regulatory framework for the energy sector and include an analysis of the risk of change in law during the term of the financing. Legal due diligence will also include a review of all major project documents, including the PPAs, supply contract and all interconnection arrangements.

xi) Performance Indicators

The performance indicators outlined below are derived from the CTF Results Measurement Framework and Thailand's CIP and CIP-U. These indicators will be tracked at least annually.

1) CTF Related Performance Indicators

Program Performance Indicator	Baseline	Anticipated Results by December 2017 (5 years)
GHG emissions avoided by the Program (including replication and scale up)	N/A	1 MtCO ₂ e/year at the end of the five-year period 2012 to 2017 as direct result of ADB/CTF resources ⁸
CTF financial leverage for the Program	N/A	
CTF cost effectiveness for the Program	N/A	Replication and scale up achieves 5 MtCO ₂ e/year at the end of the 15-year operation period through 2027.
		Total emissions for the 20 years of the Program is estimated at 85 MtCO ₂ e ⁹

⁸ This estimate assumes that 520 MW of capacity is operating with emissions reductions as estimated in the table above.

	Direct reductions => CTF\$5 / ton CO ₂ e decreasing to CTF\$1.18 / ton CO ₂ e
	Or
	0.2 t CO ₂ e ton CO ₂ e /CTF\$ invested, increasing to 0.85 ton CO ₂ e /CTF\$ invested with replication and scale up

NOTE: Other performance targets and indicators quantifying developmental impacts will be included in the formulation of a Project Design and Monitoring Framework for each individual project to be supported under this program.

⁹ This assumes that RE capacity is built out with GHG reductions of 1 Mt/y for years 1 – 5 [5 million tons total], 5 Mt/y for years 6 – 15 [50 million tons], then 6 Mt/y for years 16-20 [30 million tons]; total is 85 million tons over 20 years.

¹⁰