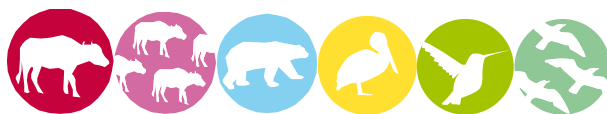


## ANNEX R – PASSPORT TEMPLATE

### CONTENTS



- A. Project title**
- B. Project description**
- C. Proof of project eligibility**
- D. Unique Project Identification**
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- G. Sustainability monitoring plan**
- H. Additionality and conservativeness deviations**

**Annex 1 ODA declarations**

## SECTION A. Project Title

### [See Toolkit 1.6]

Title: Papop Biogas and Renewable Energy Project in Thailand

Date: 16/03/2015

Version no.: 01

## SECTION B. Project description

### [See Toolkit 1.6]

The proposed Papop Biogas Project (“the proposed project activity”) involves the installation of a new Upflow Anaerobic Sludge Blanket (“UASB”) for wastewater treatment and biogas recovery at the Thai San Miguel Liquor (“TSML”) distillery (“TSML distillery”) located in Amphor Tha Muang, Kanchanaburi Province in central Thailand. The proposed project activity is being implemented by the Papop Renewable Company Limited (“Papop”) as a build, operate, transfer scheme, which will be handed over to TSML after a period of 9 years.

The TSML distillery produces alcohol spirits and as a part of the production process generates large amounts of wastewater, which has high organic matter content. Currently, wastewater is treated in an anaerobic lagoon and the anaerobic conditions lead to the production of biogas that is released directly to the atmosphere. The biogas produced contains methane, which when released to the atmosphere is a direct source of greenhouse gas (“GHG”) emissions. The TSML distillery currently operates two fossil fuel boilers for heat production. The combustion of fuel oil results in the production of carbon dioxide that is also a direct source of GHG emissions.

The purpose of the proposed project activity is to use the biogas generated by the UASB for heat generation in the TSML boilers and for electricity generation in a newly installed engine. The electricity generated will be exported to the Thai national electricity grid. The proposed project activity will result in emission reductions from the avoidance of methane emissions from the anaerobic open lagoon, the avoidance of carbon dioxide emissions from the combustion of fuel oil in the TSML boiler and from the displacement of grid sourced electricity which includes fossil fuel based electricity generation. The estimated emission reductions are 113,835 tonnes of CO<sub>2</sub>e per year.

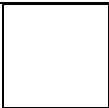
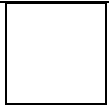
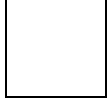


The project start date was on 25/06/2009 (first payment for starting construction of project activity.)

## SECTION C. Proof of project eligibility

### C.1. Scale of the Project

[See Toolkit 1.2.a]

Please tick where applicable:

Project Type	Large	Small
	<input type="checkbox"/>	<input type="checkbox"/>
	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>

	<input type="checkbox"/>
---	--------------------------

### C.2. Host Country

Thailand

### C.3. Project Type

[See Toolkit 1.2.c and Annex C]

Please tick where applicable:

Project type	Yes	No
Does your project activity classify as a Renewable Energy project?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Does your project activity classify as an End-use Energy Efficiency Improvement project?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Does your project activity classify as waste handling and disposal project?	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Please justify the eligibility of your project activity:

In order to comply with Gold Standard v.2.2 Annex C – guidance on project type eligibility, the project activity is classified as a Renewable Energy project and waste handling and disposal project. The justification as per project type provided below.

Project type: Biogas (landfill gas and biogas from agro-processing, wastewater and other residues)

The project type and Eligibility Criteria as per GS Annex C	Justify the eligibility of project activity
<p>Project type: Biogas</p> <ul style="list-style-type: none"> <li>Methane recovery activities shall be eligible for emission reductions from both methane avoidance (including from the flared biogas fraction) and non-renewable fuel substitution as long as evidence is provided on time for validation to demonstrate that the system was designed in a way to at least make use of some of the biogas recovered for the delivery of energy services (e.g. electricity, heat).</li> <li>Methane recovery activities at</li> </ul>	<p>The wastewater from distillery process will be treated using a UASB digester. The biogas captured by the UASB system will be used to generate heat in the TSML boiler and also to generate electricity using a newly installed engine. The excess biogas will be flared in the enclosed system. Therefore, the technology applied in the project activity is designed in a way to make use of the biogas recovered for delivery of energy service purpose.</p> <p>The project activity does not relate to palm oil</p>

wastewater treatment related to Palm Oil production shall comply with all rules provided for palm oil related activities in the section above 'Electricity and/or heat, and liquid biofuels from biomass resources'.

production process. The wastewater is generated by the distillery process.

Pre Announcement	Yes	No
Was your project previously announced?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Explain your statement on pre announcement The project activity was not previously announced.		

#### C.4. Greenhouse gas

[See Toolkit 1.2.d]

Greenhouse Gas	
Carbon dioxide	<input checked="" type="checkbox"/>
Methane	<input checked="" type="checkbox"/>
Nitrous oxide	<input type="checkbox"/>

## C.5. Project Registration Type

[See Toolkit 1.2.f]

Project Registration Type	
Regular	<input type="checkbox"/>

Pre-feasibility assessment	Retroactive projects (T.2.5.1)	Preliminary evaluation (eg: Large Hydro or palm oil-related project) (T.2.5.2)	Rejected by UNFCCC (T2.5.3)
	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

If Retroactive, please indicate Start Date of project activity: 25/06/2009\*.

\*It was the date that the project proponent made first payment for starting construction of project activity.

## SECTION D. Unique project identification

### D.1. GPS-coordinates of project location

[See Toolkit 1.6]

	Coordinates
Latitude	13° 56' 32.13" N
Longitude	99° 40' 06.83" E



*Explain given coordinates*

The proposed project activity is located within the TSML distillery at 234, Moo 1, Wangkhanai Subdistrict, Thamuang District, Kanchanaburi, 71110, Thailand. The location of the project site is shown in figure 1.



## D.2. Map

[See Toolkit 1.6]

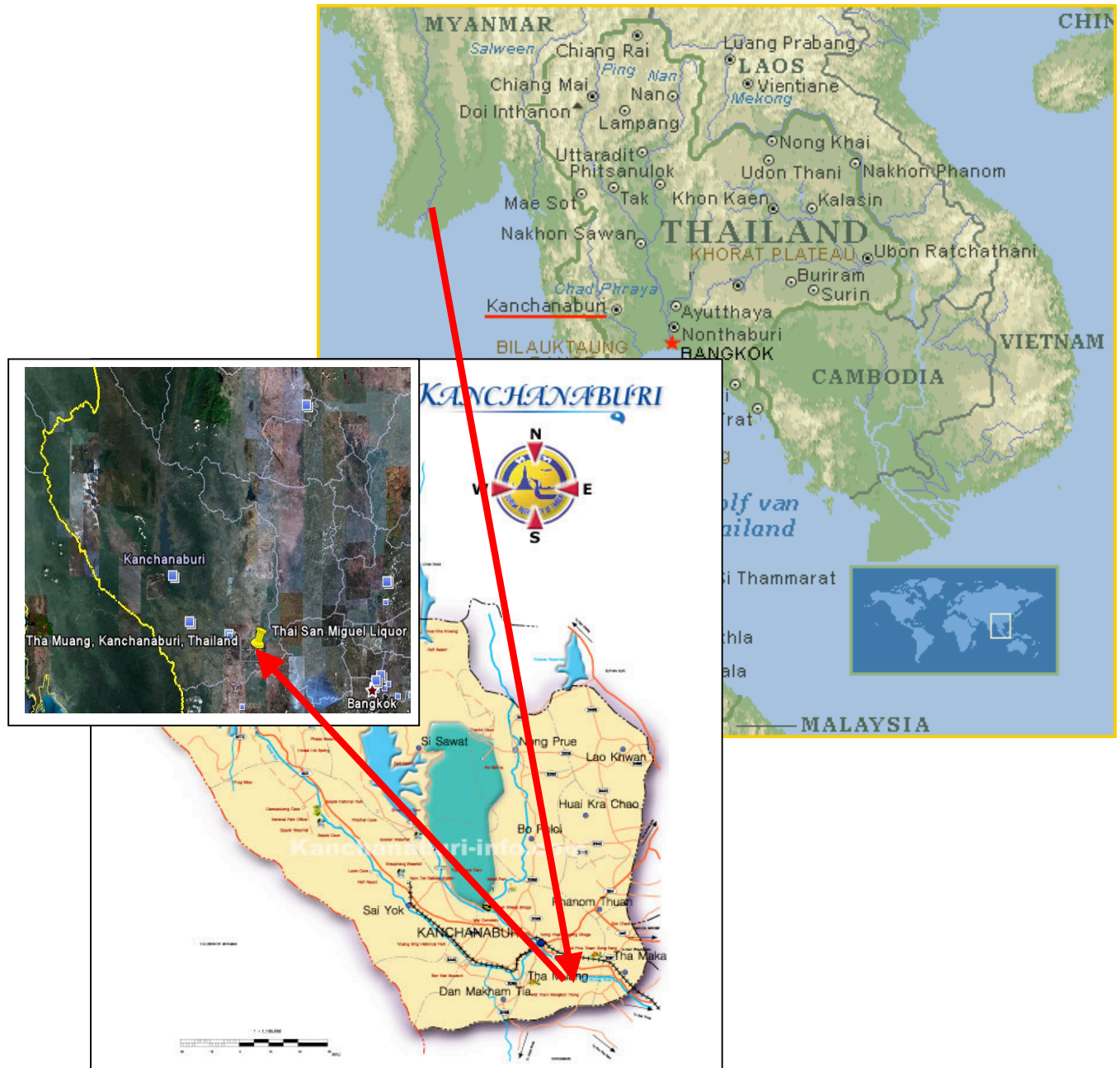


Figure 1: The project location

## SECTION E. Outcome stakeholder consultation process

### E.1. Assessment of stakeholder comments

#### [See Annex J]

[See Local Stakeholder Consultation Report B.5 and insert table from “C.3.iii Assessment of all comments”. Insert a summary of alterations based on comments]

The project will apply the retroactive registration. The local stakeholder consultation report was not prepared as per Annex J of the Gold Standard v2.2. However, the brief descriptions how comments by local stakeholders have been invited and compiled are provided in the section E of PDD. The public consultation meeting was conducted on 10/07/2009 at the meeting room of TSML, tam boon Wang Khanai, Tha Muang district, Karnchanaburi province. The invitation letters for meeting participation were sent to local stakeholders. The invitees were the local people in the community, local NGOs, academic institutions and local government authorities.

There were 62 participants attended the meeting. The presentation, a question and answer session was held to allow stakeholders to raise questions regarding the impacts of the project and to share opinions. Representatives from the project proponent answered questions regarding the biogas technology, climate change and the development of the project under the CDM.

During the public consultation meeting the project developer clarified all raised issues and provided a detailed explanation of the technology to be applied. The following responses were provided to the questions asked during the local stakeholder meeting:

#### 1. *Quality of the treated wastewater:*

- a. Wastewater from the TSML distillery does not contain any metal contaminants and there will be no affect on the surrounding areas, including local farmland.
- b. The biogas system may be applied to other projects in the local area, including the city council. However, Papop will only be able to develop projects one at a time.
- c. The project developer will make the results of the wastewater quality analysis available to any interested parties. Wastewater quality analysis will be conducted by an external agency.
- d. The UASB digester is made of reinforced concrete and therefore wastewater will not leach into the groundwater system. Therefore, there will be no contamination of the local groundwater or public water supply.

#### 2. *The operational lifetime of the proposed project activity:*

The UASB system lifetime is approximately 20 years and an annual maintenance program is planned.

3. *Sludge management:* The UASB will not produce large quantities of sludge. Any sludge that is removed may be used for the purpose of further UASB projects. Sludge will not be disposed of



on land or in waterways.

At the conclusion of the local stakeholder meeting the participants indicated they were satisfied that the proposed project activity had positive environmental outcomes and that they would report back positively to villagers.

## **E.2. Stakeholder Feedback Round**

Please describe report how the feedback round was organised, what the outcomes were and how you followed up on the feedback.

### **[See Toolkit 2.11]**

The feedback round will be conducted once the outcome of prefeasibility is provided by Gold Standard.

## **E. 3. Discussion on continuous input / grievance mechanism**

### **[See Annex W]**

Discuss the Continuous input / grievance mechanism expression method and details, as discussed with local stakeholders.

	<b>Method Chosen (include all known details e.g. location of book, phone, number, identity of mediator)</b>	<b>Justification</b>
Continuous Input / Grievance Expression Process Book	A comment book will be available at the project site, 60/9 Moo1, Wangkhanai subdistrict, Thamuang district, Kanchanaburi, Thailand. The book will be prepared as section 2.1 of Annex W.	The book will be controlled and kept within the biogas plant. The book will be communicated and discussed with the local stakeholder during the stakeholder feedback round process again.
Telephone access	The contact person is the plant manager. <sup>[1]</sup> Telephone number at the Papop renewable –	The contact person and telephone number will be provided to the local stakeholder during the stakeholder feedback round.

	Bangkok Office: +662 570 5580	The record of telephone access will be kept together with the continuous input / grievance expression process book. The contact detail of the local stakeholder will be recorded as well. The result of issue resolved or explanation will be communicated.
Internet/email access[2]	Website: <a href="http://www.southpolecarbon.com">www.southpolecarbon.com</a> Email -1: <a href="mailto:likit@papop.com">likit@papop.com</a> Email -2: <a href="mailto:info@southpolecarbon.com">info@southpolecarbon.com</a>	The internet and email access will be provided to the local stakeholder consultation during the stakeholder feedback round.
Nominated Independent Mediator (optional)	N/A	N/A

*All issues identified during the crediting period through any of the Methods shall have a mitigation measure in place. The identified issue should be discussed in the revised Passport and the corresponding mitigation measure should be added to sustainability monitoring plan in section G.*

## SECTION F. Outcome Sustainability assessment

### F.1. 'Do no harm' Assessment

[See Toolkit 2.4.1 and Annex H]

Safeguarding principles	Description of relevance to my project	Assessment of my project risks breaching it (low/medium/high)	Mitigation measure
1. The project respects internationally proclaimed human rights including dignity, cultural property and uniqueness of indigenous people. The project is not complicit in Human Rights abuses.	The project is located in Karnchanaburi Province where the surrounding is the agricultural area. None of any cultural property is closed to the biogas plant. The project does not cause human rights violations. No indigenous people would be affected by the project activity.	Low	n/a

<b>Safeguarding principles</b>	<b>Description of relevance to my project</b>	<b>Assessment of my project risks breaching it (low/medium/high)</b>	<b>Mitigation measure</b>
	Thus, the project risks breaching to this safeguarding principle is very low.		
2. The project does not involve and is not complicit in involuntary resettlement.	<p>The resettlement is not needed due to the project activity is set up at the existing location.</p> <p>Therefore, it is not relevant to consider this safeguarding principle.</p>	N/A	N/A
3. The project does not involve and is not complicit in the alteration, damage or removal of any critical cultural heritage.	<p>The project is not located close to any cultural heritage. The project takes place at an exiting location where the TSML distillery factory has been installed already since 2007.</p> <p>Therefore, it is not relevant to consider this safeguarding principle.</p>	N/A	N/A
4. The project respects the employee's freedom of association and their right to collective bargaining and is not complicit in restrictions of these freedoms and rights.	<p>Thailand has labour protection act<sup>1</sup>. The law entitles the employees to form labour unions or indulge in collective bargaining or other activities necessary to claim their rights and benefits.</p> <p>Therefore, the project activity has very low risk in breaching this</p>	Low	N/A

<sup>1</sup> See Labour Protection Act BE 2541 (1998) and Thai Civil and Commercial Code. More specifically, see Labour Relations Act BE 2518 (AD 1975) for rights of employees in forming trade unions. Note that as stipulated by the Act, the responsibilities of labour unions include a) participating in negotiation with employers, guild associations, other labour unions to provoke their rights and benefits; b) assist in an effort to arrange a work strike; c) clarify any unclear points on labour conflicts; and d) arrange demonstration and participate in a strike.

Safeguarding principles	Description of relevance to my project	Assessment of my project risks breaching it (low/medium/high)	Mitigation measure
	safeguarding principle.		
5. The project does not involve and is not complicit any form of forced or compulsory labour.	The project does not and will not involve any forced or compulsory labour <sup>2</sup> . Furthermore, the technology in the project activity does not involve any intensive manual labour. Therefore, it is very unlikely that the project will breach this safeguarding principle.		
6. The project does not employ and is not complicit in any form of child labour.	The project does not involve any child labour and is in compliance with all the necessary national/international regulations <sup>3</sup> .	Low	N/A
7. The project does not involve is not complicit in any form of discrimination based on gender, race, religion, sexual orientation or any other basis.	The project does not and will not discriminate against individuals and employment of staffs is not based on gender, race, religion, sexual orientation or on any other basis.  In Thailand, there is labour legislation that protects against some facets of this principle <sup>4</sup> .	Low	N/A

<sup>2</sup> Referring to Kingdom of Thailand Constitution, section 3 (right and freedoms of the citizens), the Thai citizens have the right to choose their jobs freely, <http://www.thprc.org/book/node/16.htm>

<sup>3</sup> See Labour Protection Act BE 2541 (1998) and Thai Civil and Commercial Code. According to the labour law, a child labour could be employed only if he has completed 15 years of age. But, in order to employ child labour below 18 years of age, the employer is required to notify it to the labour inspector regarding the employment of a child labour within 15 days from the date of joining the job. Likewise, the law restricts an employer to make a child labour below 18 years to work on public holidays and to do overtime. Further, child labour below 18 are not allowed work in certain working environments such as metal stamping, working with hazardous chemicals, and working with poisonous microorganisms.

<sup>4</sup> See Labour Protection Act BE 2541 (1998) and Thai Civil and Commercial Code. For example, according to the labour acts, both male and female employees must be treated equally in a working environment. However, there are certain exceptions in this case. For instance, an employer is restricted to employ female employee in such organizations engaged in mining as well as construction projects, underwater and tunnel works, and production and transportation of inflammable materials and explosives. Similarly, a pregnant female employee is prohibited from working in a plant or equipment that vibrates and is prohibited from lifting or carrying objects on her head that are more than 15 kilograms. Additionally, an employer cannot terminate a female employee when she is pregnant.

<b>Safeguarding principles</b>	<b>Description of relevance to my project</b>	<b>Assessment of my project risks breaching it (low/medium/high)</b>	<b>Mitigation measure</b>
8. The project providers workers with a safe and healthy work environment and is not complicit in exposing workers to unsafe or unhealthy work environments.	<p>The project will provide safe and healthy work environment. The same is also included in the operation manual for the project activity. Thailand has the regulation on measures to ensure safety in the work place<sup>5</sup>.</p> <p>Therefore, the risk of the project activity breaching this safeguarding principle is low.</p>	Low	N/A
9. The project takes a precautionary approach in regard to environmental challenges and is not complicit in practices contrary to the precautionary principle.	<p>As per the effluent discharge regulation, it allows a maximum permissible COD level from the factory of 120 mg/L<sup>6</sup>. In addition, Thailand endorsed the Rio Declaration on Environment and Development which covers the precautionary approach<sup>7</sup>.</p> <p>Therefore, it is very low risk in term of practicing contrary to the precautionary principle.</p>	Low	N/A
10. The project does not involve and is not complicit in significant conversion or degradation of	<p>The project is located next to the distillery factory.</p> <p>There is none of rare</p>	N/A	N/A

<sup>5</sup>See Labour Protection Act BE 2541 (1998). In the Act, it is stated that a National Safety Committee shall be established in order to determine guidelines for safety at work, and a private organization shall be established in order to assist, train and provide technology to all employers under the government's control. Note that under the Act, government inspector can inspect the employer's workplace; collect samples of materials or products in order to analyse the safety in the workplace; and write orders to the employer and the employee requiring them to comply with the law.

<sup>6</sup> Notification by the Ministry of Industry, No. 2, B.E. 2539 (1996) issued under the Factory Act B.E. 2535 (1992)

<sup>7</sup> "Thailand's role in the United Nations" by Permanent Mission of Thailand to the United Nations Office and other International Organizations in Geneva, <http://www2.mfa.go.th/ungeneva/ThailandAndUN.aspx>

Safeguarding principles	Description of relevance to my project	Assessment of my project risks breaching it (low/medium/high)	Mitigation measure
critical natural habitats, including those that are (a) legally protected, (b) officially proposed for protection, (c) identified by authoritative sources for their high conservation value, or (d) recognized as protected by traditional local communities.	plants, animals or the habitats within the project boundary. The project will not result in conversion or degradation of critical natural habitats.		
11. The project does not involve and is not complicit in corruption.	Thailand is a signatory of the convention against corruption <sup>8</sup> . The risk of the project breaching this safeguarding principle is low.	Low	N/A

## F.2. Sustainable Development matrix

[See Toolkit 2.4.2 and Annex I]

Insert table as in section D3 from your Stakeholder Consultation report (Sustainable Development matrix).

Indicator	Mitigation measure	Relevance to achieving MDG	Chosen parameter and explanation	Preliminary score
<b>Gold Standard indicators of sustainable development.</b>	If relevant copy mitigation measure from "do no harm" – table, or include mitigation measure used to neutralise a score of ‘–’	Check <a href="http://www.undp.or/mdg">www.undp.or/mdg</a> and <a href="http://www.mdgmonitor.org">www.mdgmonitor.org</a>  Describe how your indicator is related to local MDG goals	<b>Defined by project developer</b>	Negative impact: score ‘-’ in case negative impact is not fully mitigated score 0 in case impact is planned to be fully mitigated No change in impact: score 0 Positive impact: score ‘+’
Air quality		Target 7. A: “integrate the principles of sustainable development into country policies and	Air quality will be improved substantially compared to emission levels (SOx and NOx) related to fossil fuel	0

<sup>8</sup> Signatories to the United Nations Convention Against Corruption; <http://www.unodc.org/unodc/en/treaties/CAC/signatories.html>



Indicator	Mitigation measure	Relevance to achieving MDG	Chosen parameter and explanation	Preliminary score
		programmes and reverse the loss of environmental resources”.	combustion. Fossil fuels will be displaced by the use of biogas from the project activity for thermal and electrical energy generation. The GHG emissions will also be reduced as a consequence of the project. Furthermore, by replacing the open anaerobic lagoon with an enclosed biodigester, the project significantly contributes to an improvement of odour emissions. This has a substantial impact on quality of life for the employees at the plant and residents living in the area close to the lagoons.	
Water quality and quantity		Target 7. A: “integrate the principles of sustainable development into country policies and programmes and reverse the loss of environmental resources.”	<p><b>Water quality:</b> Water quality changes compared to release of pollutants and its impacts. The quality of the treated wastewater will be significantly improved with the implementation of the biogas system. This parameter is scored as positive.</p> <p><b>Water quantity:</b> Water quantity changes in water balance and availability in ground</p>	<p>Water quality: +</p> <p>Water quantity: 0</p>

Indicator	Mitigation measure	Relevance to achieving MDG	Chosen parameter and explanation	Preliminary score
			and surface water. The project does not impact any change to the water balance or the availability in ground and surface water. The project treats the wastewater from the distillery factory with biogas recovery system. The amount of wastewater treated will be utilized for irrigation purpose and reused within the factory. Since, there is no significant impact, therefore, this parameter is scored as zero.	
Soil condition		n/a	<b>Soil contamination, erosion:</b> There is no change due to this indicator. The project activity has no impact to soil contamination and erosion. Therefore, the parameter is scored as zero.	0
Other pollutants		n/a	<b>Level of noise:</b> The noise level during the implement of the project activity is under the national standard. There is no impact due to the operation of the project activity. Therefore, the parameter is scored as zero.	0
Biodiversity		n/a	<b>Threatened plants and animals:</b>	0

Indicator	Mitigation measure	Relevance to achieving MDG	Chosen parameter and explanation	Preliminary score
			<p>There is no significant change to the livelihood of plants or animals before or after the project. Although a reduction of pathogens due to improvement in the overall effluent treatment system might be observed, with a potential benefit on plant, animal, and human health. The project will be located in the existing distillery plant area.</p> <p>Therefore, the parameter is scored as zero.</p>	
Quality of employment		n/a	<p><b>Training of staff:</b> The project leads to employment generation in the thermal and power plant and in the operation and maintenance of the UASB system. The employment and training of skilled staff has an impact on job quality in the rural context of the project. Nonetheless, it is not convincing that such a benefit is significant enough, especially when considering that training on issues such as safety is becoming a requirement by</p>	0

Indicator	Mitigation measure	Relevance to achieving MDG	Chosen parameter and explanation	Preliminary score
			statutory regulations; a neutral score is kept for this indicator.	
Livelihood of the poor		n/a	<b>Poverty alleviation:</b> Compared to baseline, the project will generate income through additional employment. However, as the income will affect the employees of the project, but not significantly affect the whole communities around the project, thus it will not significantly improve the livelihood of the poor in general. Therefore, the score is neutral.	0
Access to affordable and clean energy services		n/a	<b>Change in energy use:</b> There is no change in energy use due to the project activity. The surrounding communities can access and use the electricity from the existing grid, which is the same as the one that the project activity will feed the (biogas) electricity to. Therefore, the impact on this indicator is neutral.	0
Human and institutional capacity		n/a	<b>Education and gender equality:</b> The project provides training for any new employees so it does not affect the education of the local	0

Indicator	Mitigation measure	Relevance to achieving MDG	Chosen parameter and explanation	Preliminary score
			population in general. In addition, the project will recruit new employees in accordance to their qualifications, not gender; therefore it does not affect the livelihood and education for women in particular. This parameter is scored as neutral.	
Quantitative employment and income generation		n/a	<b>Number of jobs and income from employment:</b> The project creates additional jobs and income for the new employees. The impact on this indicator therefore is positive.	+
Balance of payments and investment		n/a	<b>Net foreign savings:</b> The project activities lead to reduction in fossil fuel consumption for electricity generation. The fossil fuel consumption for electricity generation in Thailand normally is imported. However, the project seems to have an impact on net foreign currency savings, but it is small at the wide-economy level. A neutral score is chosen for an accurate assessment for this parameter.	0
Technology transfer and technological		n/a	<b>Training/or workshops for</b>	0

Indicator	Mitigation measure	Relevance to achieving MDG	Chosen parameter and explanation	Preliminary score
self-reliance			<b>employees:</b> The project showcases an innovative way to utilise renewable energy from waste and will provide training in regards to the technology to the employees; however, since this point is already covered in the quality of employment, thus for being conservative, the indicator is scored zero.	
<b>Justification choices, data source and provision of references</b>				
Air quality	Referring to Standard of Air Pollution from Power Plants, B.E. 2547 (2004) – for SO <sub>x</sub> and NO <sub>x</sub> from coal, <a href="http://www.diw.go.th/diw/law50/air/A7.pdf">http://www.diw.go.th/diw/law50/air/A7.pdf</a> , Ministry of Industry Referring to the IEE Chapter 4 (Environmental Impact Assessment), table 4.1-2 (Limitation of Emission from the Project Activity)  Referring to Standard of Air Pollution from Factories, B.E. (2006) – for SO <sub>x</sub> and NO <sub>x</sub> from fuel oil, <a href="http://www.diw.go.th/diw/law50/air/A11.pdf">http://www.diw.go.th/diw/law50/air/A11.pdf</a> , Ministry of Industry Referring to Initial Environmental Examination (IEE), chapter 4 (environmental Impact Assessment), section 4 (odour)			
Water quality and quantity	IEE chapter 6 (environmental impact assessment – water pollution) IEE chapter 6 (environmental impact assessment – underground contamination)			
Soil condition	IEE chapter 6 (Environmental impact assessment - soil pollution)			
Other pollutants	IEE chapter 6 (Environmental impact assessment - impact on noise)			
Biodiversity	IEE chapter 2 (Project location and map)			
Quality of employment	IEE chapter 6 (Environmental impact assessment – employee training)			
Livelihood of the poor	IEE chapter 6 (Environmental impact assessment – income generation for new employees)			
Access to affordable and clean energy services	IEE chapter 5 (Current environmental situation – electricity consumption)			
Human and institutional capacity	Local stakeholder consultation report			
Quantitative employment and	IEE chapter 6 (Environmental impact assessment – income generation for new employees)			



Indicator	Mitigation measure	Relevance to achieving MDG	Chosen parameter and explanation	Preliminary score
income generation				
Balance of payments and investment	Referring to table 2 (Thailand Energy Balance 2009) on page XIV (please find imported crude oil), and VI (chart – fuel consumption for electric generation) Thailand Energy Statistics 2009, by Department of Alternative Energy Department and Efficiency (DEDE), Ministry of Energy <a href="http://www.dede.go.th/dede/fileadmin/usr/wpd/static/stat53/Thai_En_Stat_2009%28preliminary%29.pdf">http://www.dede.go.th/dede/fileadmin/usr/wpd/static/stat53/Thai_En_Stat_2009%28preliminary%29.pdf</a>			
Technology transfer and technological self-reliance	IEE chapter 6 (Environmental impact assessment – employee training)			

## SECTION G. Sustainability Monitoring Plan

[See Toolkit 2.4.3 and Annex I]

No	GS-1	
Indicator	Water quality	
Mitigation measure	n/a	
<i>Repeat for each parameter</i>	n/a	
Chosen parameter	COD of the wastewater at the outlet of UASB system	
Current situation of parameter	Refer to the baseline situation	
Estimation of baseline situation of parameter	In the baseline, there would have been risks of water contaminations and leakage from the open lagoons with wastewater with high COD content.	
Future target for parameter	There is no as such future target for this parameter but to make sure that the COD entering open lagoons in the project is lower than COD entering the open lagoons in the baseline scenario.	
Way of monitoring	How	COD out from the UASB system will be measured using colorimetric method in the on-site laboratory.
	When	Please refer to the details in the monitoring section in the PDD.
	By who	Internal laboratory

No	GS-2	
Indicator	Quantitative employment and income generation	
Mitigation measure	n/a	
<i>Repeat for each parameter</i>	n/a	
Chosen parameter	Number of people employed in the project activity	
Current situation of parameter	Refer to the baseline situation	
Estimation of baseline situation of parameter	In the baseline, no additional jobs or income would have been generated.	
Future target for parameter	n/a	
Way of monitoring	How	The HR records will be the basis on monitoring number of people employed by the project activity.
	When	Once a year
	By who	Project owner

No		GS-4
Indicator		Quantitative employment and income generation
Mitigation measure		n/a
Repeat for each parameter		n/a
Chosen parameter		Income of employees
Current situation of parameter		The average monthly income in 2008 at Karchanaburi province was 4,896 THB/capita <sup>9</sup> .
Estimation of baseline situation of parameter		n/a
Future target for parameter		There is no target as such but the project activity will offer better income compared to the current situation.
Way of monitoring	How	This parameter will be monitored based on the income of employee hired by the project. The data will be referred from the administration of company.
	When	Once for each monitoring period
	By who	Project owner

### Additional remarks monitoring

## SECTION H. Additionality and conservativeness

This section is only applicable if the section on additionality and/or your choice of baseline does not follow Gold Standard guidance.

In order to determine the baseline of the project activity, the project applies ACM0014 “Mitigation of greenhouse gas emissions from treatment of industrial wastewater”, version 6. The methodology is approved by UNFCCC. This is inline with requirement of the Gold Standard.

### H.1. Additionality

#### [See Toolkit 2.3]

The additionality of the project activity has been demonstrated using the “Tool for the demonstration of assessment of additionality”. Please refer to the PDD section B.5 for more information.

### H.2. Conservativeness

<sup>9</sup> [http://service.nso.go.th/nso/nsopublish/poverty/files/52/wkk/T.%201%20whole\\_income\\_total.pdf](http://service.nso.go.th/nso/nsopublish/poverty/files/52/wkk/T.%201%20whole_income_total.pdf)

**[See Toolkit 2.2]**

The baseline scenario selection and the calculation of greenhouse gas emission reductions have been carried out in the most conservative manner when the methodology provided to possibilities to act.

Please refer to the PDD Sections B.3, B.4, B.5 and B.6 for more details on project boundary definition, baseline scenario selection and emission reductions calculation.

**ANNEX 1      ODA declaration**

**[See Toolkit Annex D]**

Project financing for this project activity will not use Official Development Assistance (ODA) Funds as defined in the Gold Standard Toolkit. There are no loans or grants being provided by International Finance Institutions, which include ODA.