



MOE EPA



UNITAR



United Nations Institute for Training and Research



unitar

GEF UNEP



Status of PRTR in Cambodia

Final Global Project on the Implementation of Pollutant Release and Transfer Registers (PRTR) as a Tool for Persistent Organic Pollutants (POP) Reporting, Dissemination and Awareness raising
25 – 27 March 2019, Siem Reap-Cambodia

Mr. Uon Sokunthea

Department of Hazardous Substance Management

General Directorate of Environmental Protection

Ministry of Environment

Kingdom of Cambodia

Achievement of PRTR Implementation

The main achievement

Activities/National Service

Update National Executive Proposal and Legal

- Updating National Executive Proposal
- Sub-Decree on Pollutant Release and Transfer Register
- NCC meeting to consulting (face to face Meeting)

National Consultants to develop and Coordinate training to industrial, NGOs, Civil Society and media/Journalists

- National Strategy for Dissemination information and PRTR Data
- Implementation of National Strategy
 - Website: www.prtrcambodiamoe.gov.kh
 - Facebook PRTR Cambodia
 - Google form to conduct Survey in more than 1000 peoples
 - Conducting the Campaign Seminar

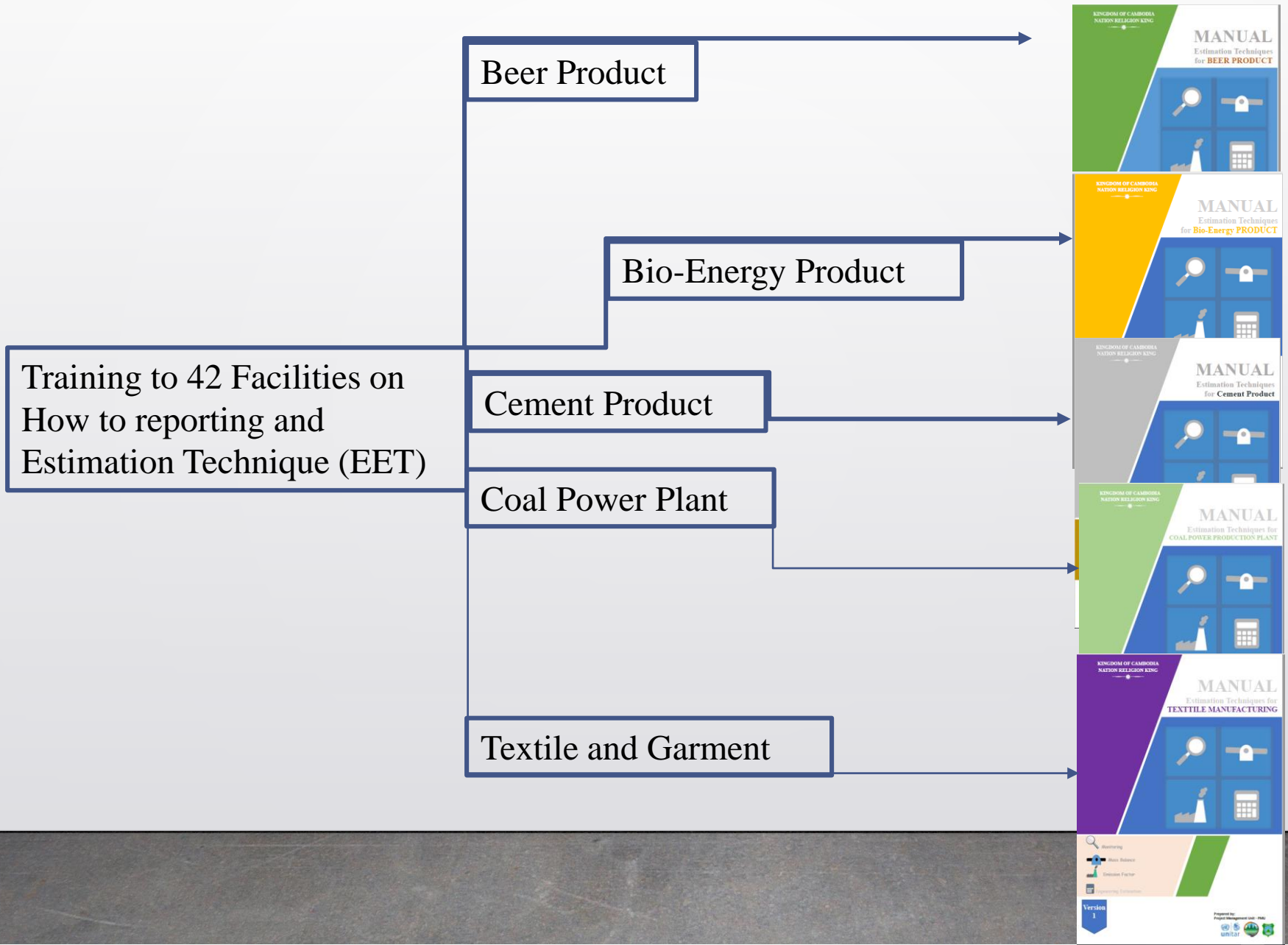
Achievement of PRTR Implementation (cont....)

The main achievement

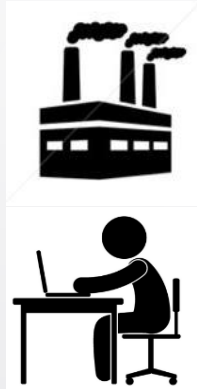
Pilot Trial

- Conduct Survey to pollution sources (Selection of the pilot trial region)
- Obtain policy commitment by industrial and other pollution sources's reporting
- Identify of threshold and chemical or pollution substances
- Implementing and POPs Reporting
- General Guideline on EET
- Specific Manual on EET
- Training to Trainer for industrial sectors resources

❑ Training to Industries on Estimation Technique to Pilot Trial Y2018



Reporting System



$$(x + a)^n = \sum_{k=0}^n \binom{n}{k} x^k a^{n-k}$$

Calculation of pollutant release and transfer

- Validation data processing
- Evaluation



PRTR Substance Search

☐ Reporting year

☐ Information about the company

☐ Chemicals contained in raw materials used

☐ 1,2,3,4,5, 6- hexachlorocyclohexane (HCH)

☐ 1,2-dichloroethane (EDC)

☐ Alachlor

☐ Aldrin

☐ Arsenic (As)

☐ Anthracene

☐ Solid Waste Generation

☐ Emission to

☐ Transfer to

Show Result



Report of pollutant release and transfer to MoE

1

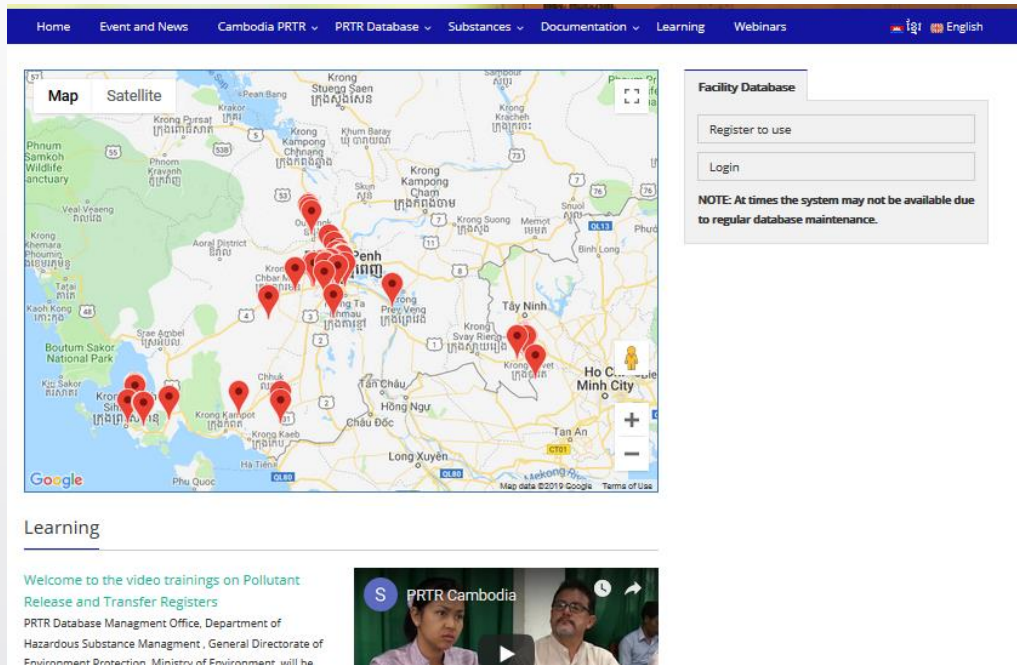
2

3

4

Jan	Feb	Mar	Apr	May	Jun	Jul	Agu	Sep	Oct	Nov	Dec
Reporting by Faculties			Validation Data			Compile data and analysis			Dissemination Data		

❑ Online Reporting Format

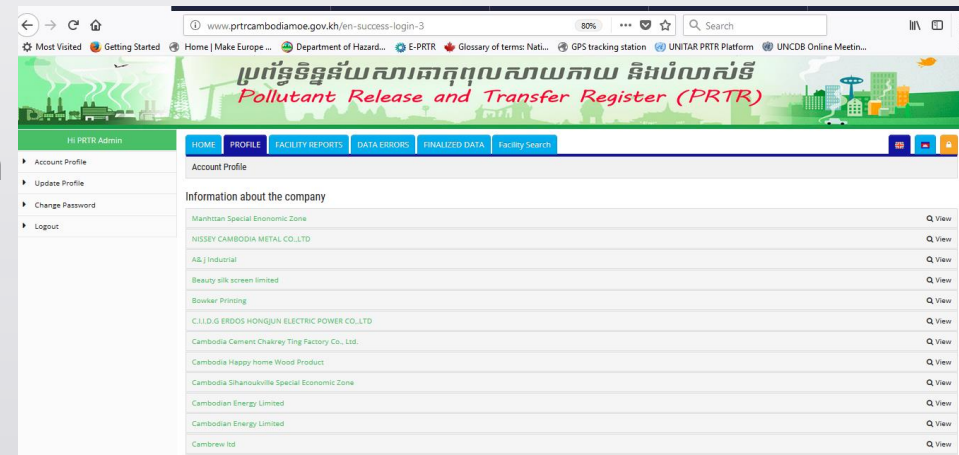


Pollution sources' reports will be received and evaluated. Each facility will generate account for their personal reports.

Report of Emission/Transfer

Pollution sources can use the manual in the web portal.

Allow facilities to estimate their annual emissions through emission factors developed by National Consultant.



❑ Online Reporting Format (cont...)

PRTR Cambodia - Pollutants Re X

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🏠

www.prtrcambo

50%

...

🛡️

☆

🔍 Search


»

☰

⚙️ Most Visited

🌐 Getting Started

🏭 Department of Hazard...



អង្គការគ្រប់គ្រងគុណភាពបរិស្ថាន
អង្គការគ្រប់គ្រងសារធាតុគ្រោះថ្នាក់

HOME

PROFILE

REPORT

DATA ERROR

FACILITY DATA

🇰🇷

🇬🇧

User's Guide

▶ Online Report Manual

▶ Reporting Register

▶ Calculation Tool

▶ EET Manuals

HI OU Sokunthea

▶ My Profile

▶ Update Profile

▶ Change Password

▶ Logout

Account Profile

Information about the company

test F1

Addressaddress T1

Contact nameUon Sokunthea

Phone number012386693

Email addressuon-sokunthea@moe.gov.kh

Edit

+ Create subsidiary account

Information about the legal representative of the facility

Information about the industrial facility

Information about the person in charge of form filling

Send request to get approval from MOE's administrator

❏ Online Reporting Format (cont...)

The screenshot displays the web interface of the Pollutant Release and Transfer Register (PRTR) for Cambodia. The browser address bar shows the URL www.prtrcambodiamoe.gov.kh/en-success-login-3. The page features a green header with the title in Khmer and English: **ប្រព័ន្ធទិន្នន័យសារធាតុពុលសាយភាយ និងបំបាត់ន៍** and **Pollutant Release and Transfer Register (PRTR)**. Below the header is a navigation menu with tabs: HOME, PROFILE, FACILITY REPORTS, DATA ERRORS, FINALIZED DATA, and Facility Search. The left sidebar contains a list of user actions: Account Profile, Update Profile, Change Password, and Logout. The main content area is titled "Information about the company" and lists various facilities with a "View" link for each.

Facility Name	Action
Manhattan Special Economic Zone	Q View
NISSEY CAMBODIA METAL CO.,LTD	Q View
A&J Industrial	Q View
Beauty silk screen limited	Q View
Bowker Printing	Q View
C.I.L.D.G ERDOS HONGJUN ELECTRIC POWER CO.,LTD	Q View
Cambodia Cement Chakrey Ting Factory Co., Ltd.	Q View
Cambodia Happy home Wood Product	Q View
Cambodia Sihanoukville Special Economic Zone	Q View
Cambodian Energy Limited	Q View
Cambodian Energy Limited	Q View
Cambrew Ltd	Q View

❑ Online Reporting Format (cont...)

PRTR Cambodia - Pollutants Re X

www.prtrcambodiamoe.gov.kh/en-facility-report-3


ប្រព័ន្ធទិន្នន័យសារធាតុពុលសាយភាយ និងបំបាត់
Pollutant Release and Transfer Register (PRTR)

Facility Report Status


- ❗ Chemicals contained in raw materials
- ❗ Manufactured products;
- ❗ Water consumption;
- ❗ Electricity consumption;
- ❗ Solid Waste Generation;
- ❗ Liquid Waste Generation;
- ❗ Emission to;
- ❗ Transfer to;

HOME PROFILE REPORT DATA ERROR FACILITY DATA


Facility Report




CRM
Chemicals contained in raw materials used




MFP
Manufactured products




WCT
Water consumption




ECT
Electricity consumption




SWG
Solid Waste Generation



LWG
Liquid Waste Generation



EMR
Emission to



EAT
Transfer to

www.prtrcambodiamoe.gov.kh/en-facility-report-3

12:21 PM 5/22/2018

❏ Online Reporting Format (cont...)

PRTR Cambodia - Pollutants Re X

www.prtrcambodiamoe.gov.kh/en-crm-form-8695-28-2017

ប្រព័ន្ធទិន្នន័យសារធាតុពុលសាយភាយ និងបំបាត់
Pollutant Release and Transfer Register (PRTR)

HOME PROFILE **REPORT** DATA ERROR FACILITY DATA

Chemicals contained in raw materials used

Reporting year 2017, from Wednesday, 01 Feb 2017 to Thursday, 01 Jan 1970

Raw material ?	Commercial name ?	CAS number ?	Annual consumption ?	Measurement Unit ?	Used in ?	Action
Mercury and compounds (as Hg) ▼		7439-97-6			Fuels and fuel additives ▼	+ Add

Save

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Designed & Hosted by Classic Web Design

12:24 PM 5/22/2018

❏ Online Reporting Format (cont...)

PRTR Cambodia - Pollutants Re X

www.prtrcambodiamoe.gov.kh/en-mfp-form-8695-28-2017

ប្រព័ន្ធទិន្នន័យសារធាតុពុលសាយភាយ និងបំបាត់ទី
Pollutant Release and Transfer Register (PRTR)

HOME PROFILE **REPORT** DATA ERROR FACILITY DATA

Manufactured products

Products ?	Annual production ?	Measurement unit ?	Type of process ?		Action
			Continuous ?	Seasonal ?	
Energy	10000	kw/year	yes	no	+ Add
					+ Add
					+ Add
					+ Add

Save

Copyright © 2018 PRTR Cambodia

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12:28 PM 5/22/2018

□ Completing and Final Data Format

Content Management

▶ Caption

▶ Facility

▶ Label

▶ Main Substance

▶ Sub Substance

▶ Sector

▶ Message

▶ Request

▶ User Account

▶ Create Account

HOMEPROFILEFACILITY REPORTSDATA ERRORSFINALIZED DATAFacility Search

Facility Data 20182018

Facility2.CO_LTDQ View

Chemicals contained in raw materials used

Raw material	Commercial name	CAS number	Annual consumption	Unit	Used in	Action
Asbestos	cans sport	1332-21-4	2300	Other	Adhesives and sealants	Q E X
Benzene	cans beers	71-43-2	3200	Other	Desiccants and absorbents	Q E X

Manufactured products

Water consumption

Electricity consumption

Solid Waste Generation

Liquid Waste Generation

Air Emissions

Emission to

Emissions to	Chemical identity		Generation point	Emission to			Action
	Chemical name	CAS Number		Quantity	Unit	Estimation method	
Air	2-Bromopropane	75-26-3	in-site	120	Nm3/hour	Direct Measurement	Q E X
Soil	Acetaldehyde	75-07-0	in-site	230	Nm3/hour	Emission Factor	Q E X
Water	Benzene	71-43-2	out-site	560	Nm3/hour	Mass Balance	Q E X

Transfer to

TOYOTA ModernQ View



Searching Data Format

HOME PROFILE FACILITY REPORTS DATA ERRORS FINALIZED DATA Facility Search

Facility Level

Reporting year	<input type="text" value="-0001"/>	▼
City/Province	<input type="text" value="All Locations"/>	▼
Facility name	<input type="text" value="All Facilities"/>	▼
	<input type="text" value="Activities"/>	▼
Main Activity	<input type="text" value="All main activities"/>	▼
Sub Activity	<input type="text" value="All sub activities"/>	▼
	<input type="text" value="Pollutant Releases"/>	▼
Group Pollutant	<input type="text" value="All Main Pollutants"/>	▼
Pollutant	<input type="text" value="All Sub Pollutants"/>	▼
Pollutant Releases	<input checked="" type="checkbox"/> Air <input checked="" type="checkbox"/> Soil <input checked="" type="checkbox"/> Water	
	<input type="text" value="Pollutant Transfers"/>	▼
Group Pollutant	<input type="text" value="All Main Pollutants"/>	▼
Pollutant	<input type="text" value="All Sub Pollutants"/>	▼
Transfer to	<input checked="" type="checkbox"/> Coprocessing <input checked="" type="checkbox"/> Final disposal <input checked="" type="checkbox"/> Recycle <input checked="" type="checkbox"/> Reuse <input checked="" type="checkbox"/> Chemical Treatment <input checked="" type="checkbox"/> Incineration <input checked="" type="checkbox"/> Sewage <input checked="" type="checkbox"/> Other	
	<input type="text" value="Waste Transfer"/>	▼
Type of waste	<input checked="" type="checkbox"/> General Waste <input checked="" type="checkbox"/> Hazardous Waste <input checked="" type="checkbox"/> Infectious Waste	
Treated directly in-site	<input checked="" type="checkbox"/> Recycle <input checked="" type="checkbox"/> Reuse <input checked="" type="checkbox"/> Chemical Treatment <input checked="" type="checkbox"/> Incineration <input checked="" type="checkbox"/> Other	
Treated directly out-site	<input checked="" type="checkbox"/> Recycle <input checked="" type="checkbox"/> Reuse <input checked="" type="checkbox"/> Chemical Treatment <input checked="" type="checkbox"/> Incineration <input checked="" type="checkbox"/> Other	

Facility Search

Result of Searching Data

[←](#) [→](#) [↶](#) [🏠](#)

www.prtrcambodiamoe.gov.kh/en-search-facility-3-1

50%

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🔍 Search

📑

📄

☰

⌵

⚙️ Most Visited

🚀 Getting Started

🌐 Home | Make Europe ...

🇰🇭 Department of Hazard...


⚙️ E-PRTR

🇰🇭 Glossary of terms: Nati...

📍 GPS tracking station

🌐 UNITAR PRTR Platform

🌐 UNCDB Online Meetin...



ប្រព័ន្ធទិន្នន័យសារធាតុពុលសាយភាយ និងបំបាត់
Pollutant Release and Transfer Register (PRTR)

Content Management

▶️ Caption

▶️ Facility

▶️ Label

▶️ Main Substance

▶️ Sub Substance

▶️ Sector

▶️ Message

▶️ Request

▶️ User Account

▶️ Create Account

HOME

PROFILE

FACILITY REPORTS

DATA ERRORS

FINALIZED DATA

Facility Search

🇰🇭

🇰🇭

👤

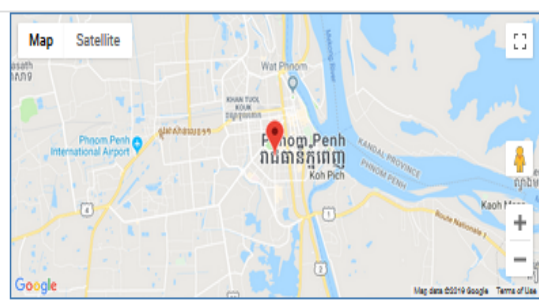
Facility Level

Facility Information

Facility name	Address	Action
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Map

Satellite



Phnom Penh
កម្ពុជា
Koh Pich

Phnom Penh International Airport

Wat Phnom

KANDAL PROVINCE

Kaoh

Map data ©2019 Google

Terms of Use

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As PRTR System- Coal Power Plant



Cambodian Energy Limited

**Pollutant Release and Transfer Registers (PRTR)
2019**



a member of

HNG CAPITAL

26 March 2019

2. Description of Facilities

2.1. Chemical contained in raw materials used

Raw Material	Commercial Name	CAS Number	Annual Consumption	Measurement Unit	Used in ¹
Ammonia (NH ₃)	Ammonia	7664-41-7	880	Kg	Water Treatment Process
Hydrochloric Acid (HCl)	-	-	11,200	Kg	WTP Process
Sodium hydroxide (NaOH)	-	-	17,280	Kg	WTP Process
Tri Sodium Phosphate - TSP (Na ₃ PO ₄ ·12H ₂ O)	-	-	50	Kg	WWTP Process
Poly Aluminum Chloride (PAC)	-	-	1600	Kg	WWTP Process
Polyacrylamide (PAM)	-	-	150	Kg	WWTP Process

☐ Cambodia Energy Limited (Cont...)

3. Waste Generation

3.1. Solid Waste Generation

Process or sub-process	Type of waste	Quantity (ton/year)	Quantity of waste in stock (ton/year)	Treated directly in site		Treated directly out side		
				Quantity (ton/year)	Treated Method	Quantity (ton/year)	Treated Method	Name of landfill or company
Energy Production	Hazardous Waste	15256	397	0	Recycle	14859	Reuse	Shi Mao

Note: Total ash was taken by Shi Mao is 14859 ton/year which contain fly ash material is 8859 ton and bottom ash is 6000 ton/year

☐ Cambodia Energy Limited (Cont...)

4.1. Emission to

Emission to	Chemical Identity		Generation Point	Emission to		
	Chemical Name	CAS Number		Quantity (ton/year)	Unit	Estimation Method
Air	Sulfur Dioxide	9-5-7446	Boiler Flue Gas	713	mg/Nm3	
Air	Nitrogen Dioxide		Boiler Flue Gas	315	mg/Nm3	
Air	Particulate Matter		Boiler Flue Gas	22	mg/Nm3	

Note: Result taken from average CEMS reading

Excel Format

Reporting format for the Pollutants Release and Transfer Register																																																																																	
1 General Information 1.1 Information about the facility 1.1.1 Information about the company Company name: Address: Province/Town: Commune/Village: 1.1.2 Information about the industry PRTR Code: (to be classified and printed) Facility name: Address: Province/Town: Commune/Village: Telephone number: Geographical location (UTM Coordinate) Zone: Geographical location (Map attached) Altitude (meters above sea level) Area: Activity/process and Scale/size: Number of workers: Date of establishment:																																																																																	
1.2 Information about the legal entity Name and legal identity number: Contact information: Telephone number: 1.3 Information about the person in charge Name and legal identity number: Contact information: Telephone number: 1.4 Information about the person in charge Name and legal identity number: Contact information: Telephone number:																																																																																	
2 Description of Facilities 2.1 Chemicals contained in raw materials Raw material: (1) Select one of the following: Process 2.2 Manufactured products/output Products: (2) Select one of the following: Process																																																																																	
2.3 Water consumption Source: Surface water: River, Lake, Sea, Water canal Underground: Others (specify): Total:																																																																																	
2.4 Energy consumption Energy source: Coal, Oil, Gas, Electricity, Heat, Solar, Wind, Biomass, Other (specify): Total:																																																																																	
3 Waste generation 3.1 Solid Waste Generation Process or subprocess: Type of waste: (3) Type of waste: (Select one) Treatment Method: Reuse, Recycle, Coprocessing, Treatment, Incineration, Final disposal, Sewage, Other (specify): Select one of the following:																																																																																	
3.2 Liquid Waste Generation Process/subprocess: Select one of the following:																																																																																	
3.3 Emission Release Process/sub-process: Substance or Parameter: Select one of the following: Process (P), Energy production (E), Fugitive (F) [9] Any substance or parameter mentioned in Annexes 1 and 2 [10] Conducted: emission collected and released through installed equipment [11] Fugitive: emission escaped from installed equipment Use categories developed for the screening assessment under the Chemical Management Act http://www.meti.go.jp/policy/chemical_management/kas																																																																																	
4.1 Emissions and transfers <table border="1"> <thead> <tr> <th rowspan="2">Emission / transfer</th> <th colspan="2">Chemical identity</th> <th rowspan="2">Generation point</th> <th colspan="3">Emission or transfer</th> </tr> <tr> <th>Name of the material</th> <th>Name of chemical substance</th> <th>Quantity</th> <th>Unit</th> <th>Estimation method</th> </tr> </thead> <tbody> <tr> <td rowspan="3">Emissions to:</td> <td>Air</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Water</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>soil (land)</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td rowspan="6">Transfers to:</td> <td>reuse</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Recycle</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>coprocessing</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Treatment</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Incineration</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Final disposal</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Sewage</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Other (specify):</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table>		Emission / transfer	Chemical identity		Generation point	Emission or transfer			Name of the material	Name of chemical substance	Quantity	Unit	Estimation method	Emissions to:	Air						Water						soil (land)						Transfers to:	reuse						Recycle						coprocessing						Treatment						Incineration						Final disposal						Sewage						Other (specify):					
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	Final disposal																																																																																
Sewage																																																																																	
Other (specify):																																																																																	
Signature: _____ Name of person filling the form: _____ Name and signature of legal representative (Owner): _____																																																																																	

❑ Dissemination and Publication on the System and Disclose the data

✓ 3 channel of national TV, Radio...



❏ Dissemination and Publication

✓ more than 300 students from Academe



❏ Dissemination and Publication (cont...)

✓ Through social media

The screenshot shows a Facebook page for "PRTR Cambodia". The page header includes the Facebook logo, the name "PRTR Cambodia", and navigation links like "Inbox", "Notifications", "Insights", "Publishing Tools", and "Ad Center". The main content area features a cover photo of a factory with smokestacks and a profile picture of a group of people. Below the cover photo, there is a post titled "PRTR Training Sessions and National Workshop" with a video thumbnail showing a group of people in a meeting. The post includes a "Welcome to PRTR" message and a "Send Email" button. The right sidebar contains a "Facility Database" section with a "Register to use" button and a "PRTR Substance Search" section with checkboxes for "Reporting year" and "Information about the company".

PRTR Cambodia
Create Page @Username

Home
Posts
Reviews
Videos
Photos
About
Groups
Events
Community
Info and Ads

PRTR Cambodia
Department of Hazardous Substance Management
PRTR CAMBODIA

Home Cambodia PRTR PRTR Database Substances Documentation Forum

PRTR Training Sessions and National Workshop

Welcome to PRTR

Liked Following Share

Create Post Live Event Offer Job

Write a post...

Photo/Video Feeling/Acti... Check in

1 Draft
Modified Monday, August 6, 2018 at 3:33 PM. See draft.

Facility Database
Register to use
Login
NOTE: At times the system may not be available due to regular database maintenance.

PRTR Substance Search
☐ Reporting year
☐ Information about the company

Send Email

Government Organization in Phnom Penh

Our Story

❏ Dissemination and Publication (cont...)

4G+ 27% 5:52 AM

← Boost Post

Audience

?

☐ People who like your Page

☐ People who like your Page and their friends

☒ Pollutant Release and Transfer of Register (PRTR) Cambodia by Industrial Sector

Location - Living In

Cambodia: Kampong Chhnang, Kampong Chhnang (+25 mi) Kampong Chhnang Province; Kampong Speu Province; Kompot Chhuk, Kampong Thum (+25 mi) Kampong Thom Province; Kandal Province; Phnom Penh; Bavet, Svay Rieng (+25 mi) Svay Rieng Province; Sihanoukville (province) (+25 mi) Sihanoukville Province

Age

18 - 65+

☐ People you choose through targeting

Recently used

See All (4)







Add New

Total Budget

Boost Post Now

By tapping the above button you agree to Facebook's terms and conditions.

Dissemination and Publication (cont...)

Ads			
Past Promotions			
	Website Promotion Completed \$49.75 Spent Promoted by Uon Sokun	People Reached 43,264 Link Clicks 676	
	Boosted Post Completed \$6.00 Spent Promoted by Uon Sokun	People Reached 10,824 Link Clicks 236	
	Boosted Post Completed \$4.00 Spent Promoted by Uon Sokun	People Reached 7,352 Link Clicks 142	
	Boosted Post Completed \$4.00 Spent Promoted by Uon Sokun	People Reached 1,535 Post Engagement 152	
	Boosted Post Completed \$3.00 Spent Promoted by Uon Sokun	People Reached 1,011 Post Engagement 98	
	Boosted Post Completed \$3.00 Spent Promoted by Uon Sokun	People Reached 1,877 10-Second Video Views 841	

Promote Website

 **PRTR Cambodia**
Sponsored • 

Department of Hazardous Substances Management

PRTRCAMBODIAMOE.GOV.KH
Department Of Hazardous
Department of Hazardous Substances Management, Gene...

 You, Daneth Phann and 80 others

 Like  Comment  Share

 Results from Your Ad

43264 People Reached	676 Link Clicks
--------------------------------	---------------------------

[View Detailed Results](#) >

 Feedback

Are you satisfied with this ad?

Overview

Status  Completed

Audience Male/Female, 18 - 65+, 1 location

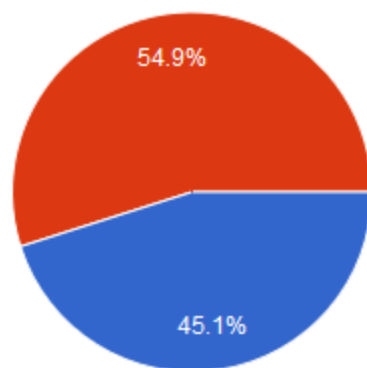
Conduct the survey through to Google form as follow

☐ Result Survey

✓ Gender

ភេទ

1060 responses

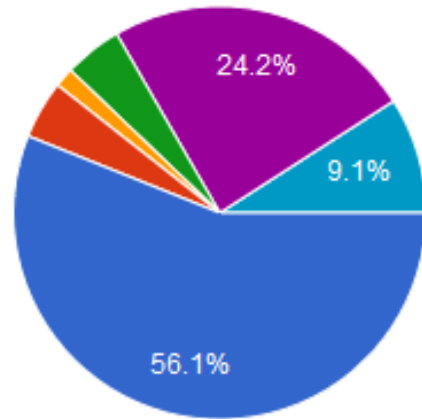


❏ Result Survey (Cont...)

✓ Group of occupation

មុខរបរ

1060 responses



- សិស្សនិស្សិត
- អាជីករ ឬអ្នកជំនួយ
- ពលករ ឬកម្មករ
- បុគ្គលិកក្រុមហ៊ុន
- មន្ត្រីរាជការ
- ផ្សេងៗ

❏ Result Survey (Cont...)

- ✓ Get information of PRTR System and data

៦. តើប្រព័ន្ធទិន្នន័យ PRTR ជាអ្វី? (ចូលជ្រើសរើសចម្លើយមួយដែលត្រឹមត្រូវបំផុត)

1060 responses



- ជាប្រព័ន្ធទិន្នន័យប្រកបដោយការស្រាវជ្រាវអំពីការបំបែក...
- ជាប្រព័ន្ធទិន្នន័យដែលមានសារពើភ័ណ្ឌជាប្រចាំថ្ងៃនៃសារធាតុបំបែកដែលបានសាយភាយនិងបំបាត់ទៅក្នុងបរិស្ថាន
- ជាប្រព័ន្ធទិន្នន័យដែលមានពីការកាត់បំបាត់ផ្ទៃក្រឡា...
- ជាទិន្នន័យសារធាតុគីមីដែលប្រើប្រាស់...
- ជាទិន្នន័យសារធាតុគីមីដែលប្រើប្រាស់...

ជាប្រព័ន្ធទិន្នន័យដែលមានសារពើភ័ណ្ឌជាប្រចាំថ្ងៃនៃសារធាតុបំបែកដែលបានសាយភាយនិងបំបាត់ទៅក្នុងបរិស្ថាន
41 (68.3%)

Challenge

❏ Challenges

- Limited regulation to foster the PRTR implementation as well as mechanism and coordination and cooperation between Industrial...etc
- Time constrained for PRTR Legislation development as during national election and establishment new government Y2018
- Limited time, cooperation, Knowledge of personnel at both public and private sectors regarding to PRTR system
- IT expert was not clearing and has a background with the PRTR system
- Limited database storage and facilities which the online reporting system;

❏ Challenges (Cont...)

- ✓ Facilities reporting of data emission calculations for data search forms was limited
- ✓ Some facilities were not regular for testing of liquid waste regular and keeping their data reporting
- ✓ PRTR reporting format shall be coming along with guideline on how to fill the form as well providing emission factors, calculation methods, and released media,
- ✓ There is the need for more national consultants in various fields of chemical expertise;
- ✓ There is knowledge barrier among personnel regarding chemicals wastes management, even consultants;
- ✓ There were hardly to engage with focal facilities to be participated in the PRTR trials;
- ✓ There was an obstacle for project implementation which related to delayed budget allocation as well as limited supports,

ကျေးဇူးတင်

**thank you very much
for your attention!**