Integration of Green Label criteria into Green purchasing guideline for private company

25 May 2021

Presentation Topics

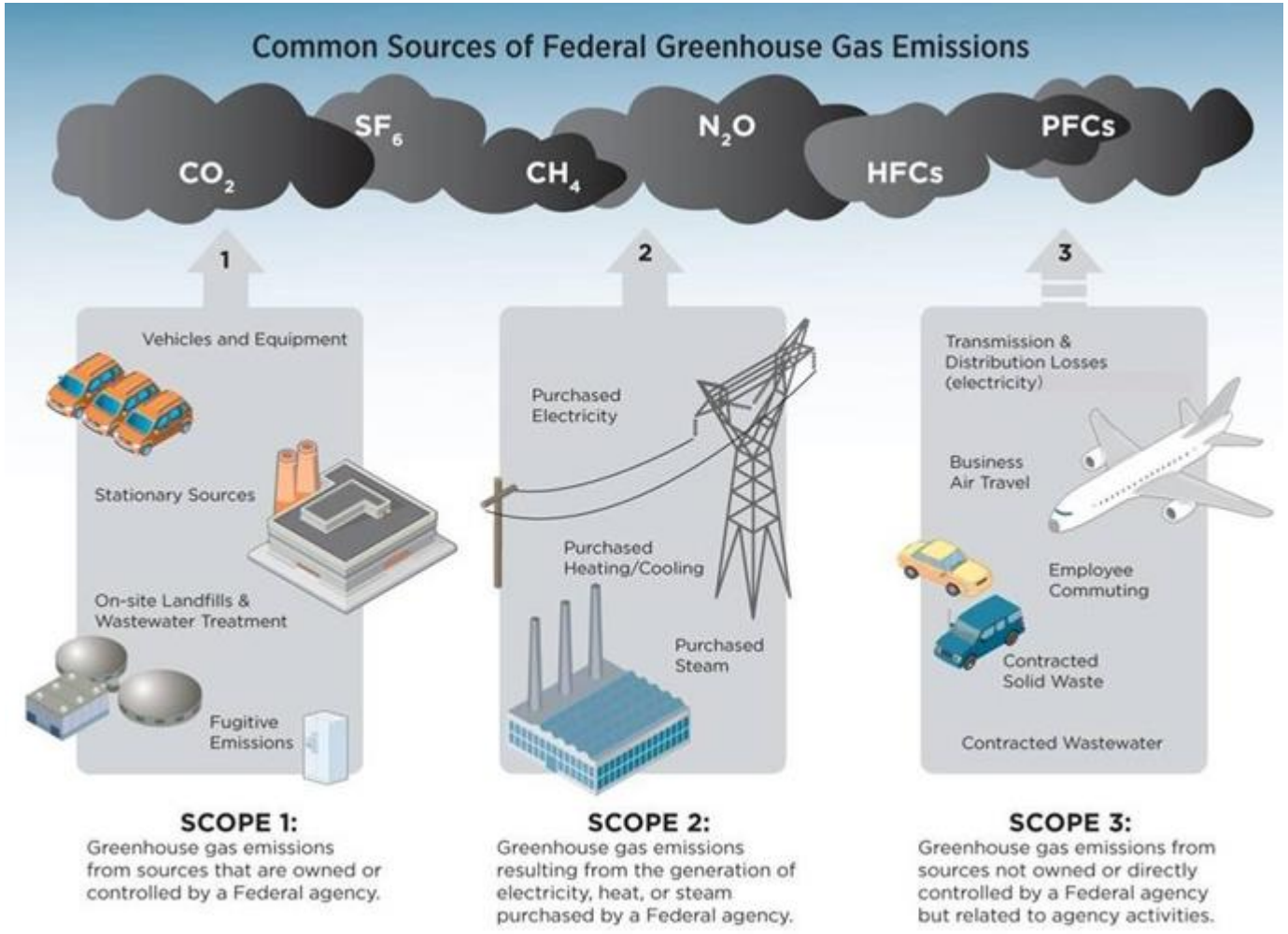
1. Back Ground
2. Development approach
3. Outcome
4. Key challenge
5. Way forward

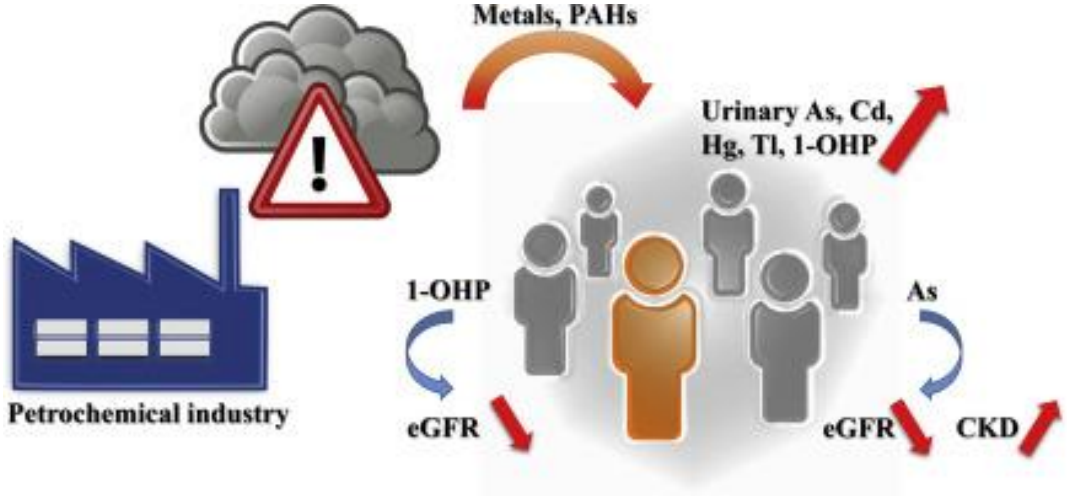
1 Back Ground

How Green Label support Sustainable purchasing

- **Help purchasers identify sustainable products or services**
- **Transparent criteria**
- **Reliable (Third party award)**

1 Back Ground



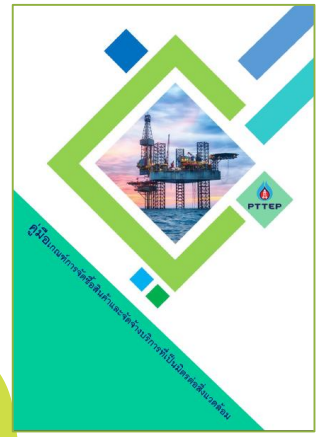


https://www.x-mol.com/paper/5954557

https://www.dw.com/en/oil-giants-face-shareholder-pressure-on-climate-emissions-greenhouse-gas-targets/a-48802418

1 Back Ground

2018
10 Criteria



2019
11 Criteria

2013
10 Criteria

2017
6 Criteria

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PTTEP

2 Development approach

Selection Principles & Approaches

Life Cycle Impact Evaluation

Green Criteria Development

Environmental Impact Assessment

Green purchasing guideline

Example: Waste Management Service

- Chemical treatment
- Energy & Water consumption
- Pollutants emission/leaking
- GHG emission during transportation
- Contamination
- Safety
- Impact to surrounding area

Environmental aspect	LCA of Waste Management Service		
	Before service	During service	After service
Resource consumption (Energy & Water)	×	●	●
Hazardous substance	×	●	●
Emission/Release of pollutant to Air, Water, and Soil	●	●	●
Waste	●	●	●
Fitness for use	●	●	●
Safety	●	●	●

X is not relate

Criteria	Verification method
Resource consumption • Planning of waste transportation route and tracking system of waste transportation • System for Energy consumption or energy use from wastewater treatment	• Documents or evidence showing the travel arrangement for the transportation of waste. • Tracking system operation manual and sample record. • Evidence showing that waste water treatment system can generate electricity.
Hazardous substance • Procedure/work instruction for oil/chemical handling and spill response.	• Procedure/work instruction on related topic.
Emission/Release of pollutant to Air, Water, and Soil • Tracking system of waste transportation. • Manage zero hazardous waste to landfill.	• Tracking system operation manual and sample record. • List of hazardous waste, record and procedure of elimination.
Waste • Chemical substances used for waste treatment or disposal must be environmentally friendly or biodegradable or recyclable.	• SDS or Evidence that the material / substance used for the treatment or disposal Environmentally friendly or biodegradable or recyclable.

Criteria	Verification method
Fitness for use • Waste management and disposal shall comply with related regulatory requirements and consider reduce, reuse, recycle and recovery concepts.	• Documents or evidence showing the process, reuse, recycling, recovery for waste or valuable materials.
Safety • Container for waste and containers used for transporting waste are kept in good condition • Third party liability insurance is provided.	• Documents or evidence showing the storage of waste transportation containers in good condition. • Document of third party liability insurance.

Planning of waste transportation route

Example: 10 wheel truck with 75% of maximum loading weight and 200 km traveling distance

GHG emission ($kgCO_2e$) = **Distance** (km) x **Truck's weight** (ton) x **Emission Factor** ($kgCO_2e$/Unit)

Calculation 1 Enduring

$GHG_{forward}$ = 200 km x 12 ton x 0.0835 $kgCO_2e$/ton-km

= 200.4 $kgCO_2e$

GHG_{return} = 200 km x 0.7466 $kgCO_2e$/ton-km

= 149.3 $kgCO_2e$

Total GHG emission/ton waste = **29.1 $kgCO_2e$**

Calculation 2 General

$GHG_{forward}$ = 200 km x 12 ton x 0.0687 $kgCO_2e$/ton-km

= 164.9 $kgCO_2e$

GHG_{return} = 200 km x 0.5863 $kgCO_2e$/ton-km

= 117.3 $kgCO_2e$

Total GHG emission/ton waste = **23.5 $kgCO_2e$**

(EF reference from http://cfologov.com/search/searchData)

Waste management and disposal shall comply with related regulatory requirements and consider reduce, reuse, recycle and recovery concepts.

Example: Calculation of GHG emissions reduction in electricity generation of 10,000 kWh from using fuel derived from oil waste instead of coal.

GHG emission ($kgCO_2e$) = **Energy** (TJ) x **Emission Factor** ($kgCO_2e$/Unit)

Calculation 1 the use of coal as fuel

GHG = 0.036 TJ x 101,472 $kgCO_2e$/TJ

= **3,652.99 $kgCO_2e$**

Calculation 2 the use of waste oil as fuel

GHG = 0.036 TJ x 75,242.00 kgCO2e/kWh

= **2,708.71 kgCO2e**

(EF reference from IPCC. (2006). Volume 2 : Energy, Table 2.2)

Waste management and disposal shall comply with related regulatory requirements and consider reduce, reuse, recycle and recovery concepts.

Example: Use of bioplastic container

GHG emission ($kgCO_2e$) = **Weigh of container** (kg) x **Emission Factor** ($kgCO_2e$/Unit)

Calculation 1 the use of Polypropylene (PP)

GHG = 15 kg x 1.90 kgCO2e/kg

= **28.50 kgCO2e**

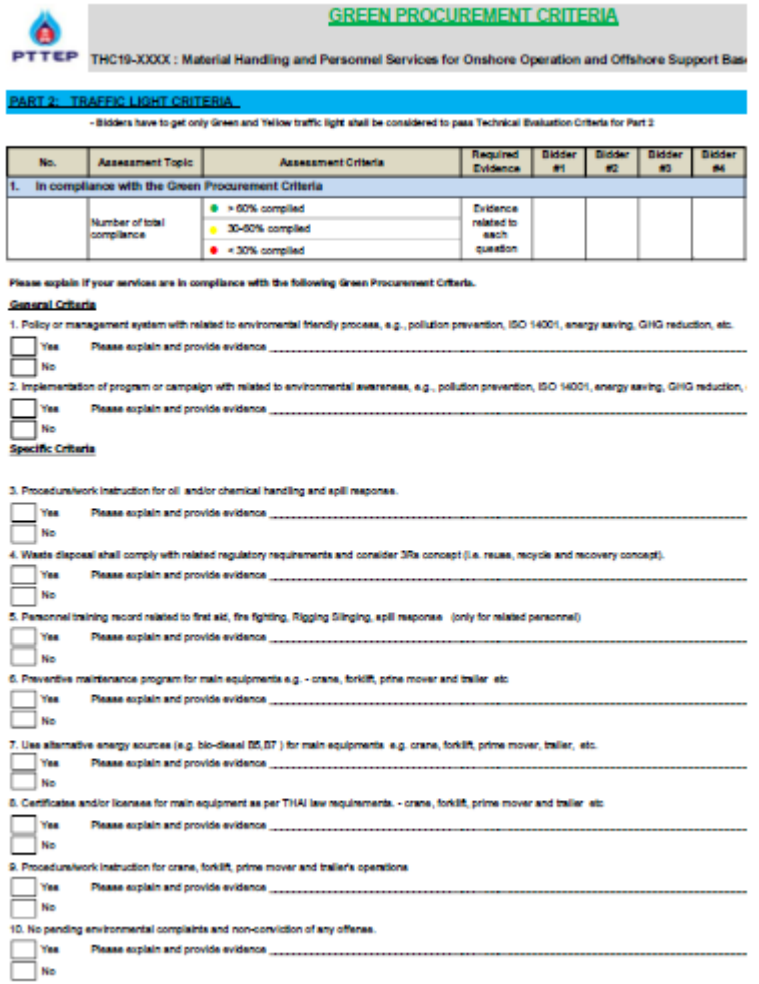
Calculation 2 the use of Polylactic Acid (PLA)

$GHG_{forward}$ = 15 kg x 0.30 kgCO2e/kg

= **4.50 kgCO2e**

(EF reference from Poly-Lactic Acid: Production, Applications, Nanocomposites, and Release Studies, Majid Jamshidian, 2014)

3 Outcome



GREEN PROCUREMENT CRITERIA

PTTEP

THC19-XXXX : Material Handling and Personnel Services for Onshore Operation and Offshore Support Bas

PART 2: TRAFFIC LIGHT CRITERIA

- Bidders have to get only Green and Yellow traffic light shall be considered to pass Technical Evaluation Criteria for Part 2

No.	Assessment Topic	Assessment Criteria	Required Evidence	Bidder #1	Bidder #2	Bidder #3	Bidder #4
1. In compliance with the Green Procurement Criteria							
	Number of total compliance	> 60% compliad	Evidence related to each question				
		30-60% compliad					
		< 30% compliad					

Please explain if your services are in compliance with the following Green Procurement Criteria.

General Criteria

1. Policy or management system with related to environmental friendly process, e.g., pollution prevention, ISO 14001, energy saving, GHG reduction, etc.
☐ Yes Please explain and provide evidence _____
☐ No

2. Implementation of program or campaign with related to environmental awareness, e.g., pollution prevention, ISO 14001, energy saving, GHG reduction,
☐ Yes Please explain and provide evidence _____
☐ No

Specific Criteria

3. Procedure/work instruction for oil and/or chemical handling and spill response.
☐ Yes Please explain and provide evidence _____
☐ No

4. Waste disposal shall comply with related regulatory requirements and consider 3Rs concept (i.e. reuse, recycle and recovery concept).
☐ Yes Please explain and provide evidence _____
☐ No

5. Personnel training record related to first aid, fire fighting, Rigging Slinging, spill response (only for related personnel)
☐ Yes Please explain and provide evidence _____
☐ No

6. Preventive maintenance program for main equipments e.g. - crane, forklift, prime mover and trailer etc
☐ Yes Please explain and provide evidence _____
☐ No

7. Use alternative energy sources (e.g. bio-diesel B5,B7) for main equipments e.g. crane, forklift, prime mover, trailer, etc.
☐ Yes Please explain and provide evidence _____
☐ No

8. Certificates and/or licenses for main equipment as per THAI law requirements. - crane, forklift, prime mover and trailer etc
☐ Yes Please explain and provide evidence _____
☐ No

9. Procedure/work instruction for crane, forklift, prime mover and trailer's operations
☐ Yes Please explain and provide evidence _____
☐ No

10. No pending environmental complaints and non-conviction of any offenses.
☐ Yes Please explain and provide evidence _____
☐ No

4 Key challenge

01  Stakeholder cooperation

02  Limitation of product’s technical expert

03  Environmental monitoring and evaluation

5 Way forward

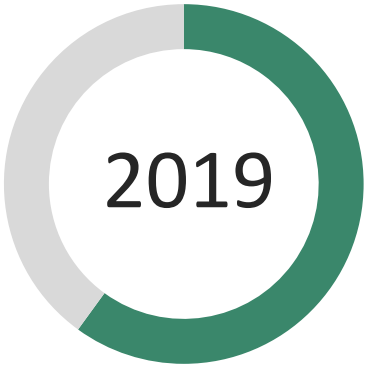
Apply an environmental monitoring and evaluation case study

Manage experience and knowledge sharing workshop

Develop Pro-active marketing strategy

Update Green label

Green Label criteria development and revision



Revision

- Sanitary paper

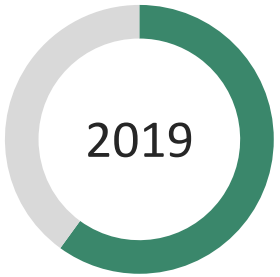
New Criteria

- Optical fiber cable

Revision

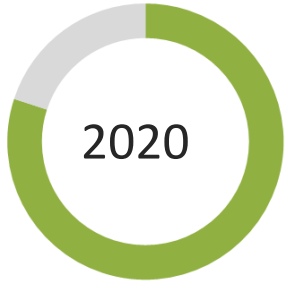
- Soaps
- Lubricant oil change service station
- Printers and Photocopiers
- Room air conditioners
- Refrigerated display cabinet
- Water dispenser
- Refrigerators

Green Label Certification



667 models

93 companies



752 models

104 companies

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THANK YOU