



TPI POLENE POWER PUBLIC COMPANY LIMITED
("TPIPP")

SECOND PARTY OPINION ON GREEN
FINANCING FRAMEWORK

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Framework

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Disclaimer

Our assessment relies on the premise that the data and information provided by the client to us as part of our review procedures are provided in good faith. Because of the selected nature (sampling) and other inherent limitation of both procedures and systems of internal control, there remains the unavoidable risk that errors or irregularities, possibly significant, may not be detected. Limited depth of evidence gathering including inquiry and analytical procedures and limited sampling at lower levels in the organization were applied as per scope of work. DNV expressly disclaims any liability or co-responsibility for any decision a person or an entity may make based on this Statement.

Statement of Competence and Independence

DNV applies its own management standards and compliance policies for quality control, in accordance with ISO/IEC 17029:2019 - Conformity Assessment – General principles and requirements for validation and verification bodies, and accordingly maintains a comprehensive system of quality control, including documented policies and procedures regarding compliance with ethical requirements, professional standards and applicable legal and regulatory requirements. We have complied with the DNV Code of Conduct during the assessment and maintain independence where required by relevant ethical requirements.

DNV's Independent Assessment

Scope and Objectives

TPI Polene Power Public Company Limited (TPIPP), a 70.24% owned subsidiary of TPI Polene Public Company Limited (TPIPL), is a leading energy and waste management company listed on the Stock Exchange of Thailand since April 5, 2017. Operating the largest waste-fired power plant in Thailand, located in Saraburi Province, TPIPP has a total installed power generation capacity of 440 MW, making it the foremost operator in electricity and energy production from waste disposal in the ASEAN region. The company supplies 180 MW to the Electricity Generating Authority of Thailand (EGAT) and 260 MW to TPIPL's cement plant. TPIPP's operations span four key segments: power and utilities, waste fuel production, solid waste disposal and incineration, and petrol/NGV stations transitioning to electric vehicle (EV) infrastructure. Key initiatives include:

- (1) Carbon Neutrality by 2037;
- (2) Waste-to-Energy Expansion by processing 2.92 million tons of waste annually, expecting to reduce GHG emissions by approximately 6.77 million tCO₂e; and
- (3) Circular Economy and Resource Efficiency by recycling ash into construction materials, reducing landfill waste. TPIPP reuses 31,000 m³ of wastewater monthly and targets reducing water use to 3.30 L/kWh by 2025.

TPIPP has developed a Green Financing Framework ("Framework") with the aim to raise Green Finance Instruments ("GFIs") to finance or refinance new and existing projects as part of its sustainable business strategies and commitment to environmental well-being, as described in the Framework. The Framework is in alignment with the stated Standards and Principles (collectively the "Principles & Standards"):

- The Green Bond Principles 2021 ("GBP") administered by the International Capital Market Association ("ICMA"),
- The Green Loan Principles 2025 ("GLP") administered by the Asia Pacific Loan Market Association ("APLMA"), the Loan Market Association ("LMA"), and the Loan Syndications and Trading Association ("LSTA"), and
- The Thailand Taxonomy Board's Thailand Taxonomy ("Thailand Taxonomy"). This Green Financing Framework references the Thailand Taxonomy - Phase 1 as initially published 2023, and Phase 2 as published in 2025.
- ASEAN Taxonomy Board's Sustainable Finance ("ASEAN Taxonomy") V3.0

DNV (Thailand) Co., Ltd. ("DNV") has been commissioned by TPIPP to review its Framework and provide a Second Party Opinion on the Framework, in accordance with the Principles & Standards.

DNV's methodology to achieve this is described under 'Work Undertaken' below. DNV was not commissioned to provide independent assurance or other audit activities.

Responsibilities of the Management of TPIPP and DNV

The management of TPIPP has provided the information and data used by DNV during the delivery of this review. Our statement represents an independent opinion and is intended to inform TPIPP's management and other interested stakeholders in the GFIs as to whether the GFIs are aligned with the Principles & Standards. In our work we have relied on the information and the facts presented to us by TPIPP. DNV is

not responsible for any aspect of the nominated assets referred to in this opinion and cannot be held liable if estimates, findings, opinions, or conclusions are incorrect. Thus, DNV shall not be held liable if any of the information or data provided by TPIPP's management and used as a basis for this assessment were not correct or complete.

Basis of DNV's Opinion

We have adapted our assessment methodology to create the TPIPP-specific Eligibility Assessment Protocol (henceforth referred to as "Protocol"). Our Protocol includes a set of suitable criteria that can be used to underpin DNV's opinion.

As per our Protocol, the criteria against which the Framework has been reviewed are grouped under the four core components:

1. Use of Proceeds

The Use of Proceeds criteria are guided by the requirement that an issuer of a bond / a borrower of a loan must use the funds raised to finance or refinance or to repay equity of eligible activities. The eligible activities should produce clear environmental and social benefits.

2. Process for Project Evaluation and Selection

The Project Evaluation and Selection criteria are guided by the requirements that an issuer of a bond / a borrower of a loan should outline the process it follows when determining eligibility of an investment using Green Bond/Loan proceeds and outline any impact objectives it will consider.

3. Management of Proceeds

The Management of Proceeds criteria are guided by the requirements that a bond/loan should be tracked within the organization, that separate portfolios should be created when necessary and that a declaration of how unallocated funds will be handled.

4. Reporting

The Reporting criteria are guided by the recommendation that at least annual reporting should be made of the use of proceeds and that quantitative and/or qualitative performance indicators should be used, where feasible.

No assurance is provided regarding the financial performance of instruments issued via the Framework, the value of any investments, or the long-term environmental benefits of the transaction. Our objective has been to provide an assessment that the Framework has met the criteria established on the basis set out below.

Work Undertaken

Our work constituted a high-level review of the available information, based on the understanding that this information was provided to us by TPIPP in good faith. We have not performed an audit or other tests to check the veracity of the information provided to us. The work undertaken to form our opinion included:

- Creation of a Protocol, adapted to the purpose of the bond, as described above and in Schedule 4-6 to this Assessment;
- Assessment of documentary evidence provided by TPIPP on the bond and supplemented by a high-level desktop research. These checks refer to current assessment best practices and standards methodology;
- Review of published materials by TPIPP and TPIPP's website;

- Discussions with TPIPP's management, and review of relevant documentation and evidence related to the criteria of the Protocol; and
- Documentation of findings against each element of the criteria.

Our opinion as detailed below is a summary of these findings.

Findings and DNV's Opinion

DNV's findings on the alignment with Principles & Standards are listed below:

1. Use of Proceeds

TPIPP intends to use the net proceeds of the GFIs to finance and/or refinance and/or to repay equity of new and/or existing eligible projects.

The Framework defines the following eligible project categories with reference to Thailand Taxonomy:

- 1) Renewable Energy – Solar
- 2) Renewable Energy – Bioenergy
- 3) Renewable Energy – Cogeneration
- 4) Heating and Cooling using waste heat
- 5) Heating and Cooling distribution
- 6) Transmission and Distribution networks for renewable and low carbon gases, including green hydrogen
- 7) Energy Storage – Storage of electricity and thermal energy
- 8) Transmission and distribution of electricity
- 9) Green Transport – Freight transport by road
- 10) Transport Infrastructure – Enabling infrastructure for low emission transport
- 11) Waste Management – Collection and Transport of Municipal Solid Waste (EO4)
- 12) Waste Management – Collection and Transport of Industrial Waste (EO4)
- 13) Waste Management – Collection and Transport of Crop Residues Waste (EO5)
- 14) Waste Management – Collection and Transport of Industrial Hazardous and Municipal Hazardous Waste (EO5)
- 15) Waste Management – Waste-to-Energy
- 16) Waste Management – Landfill gas capture and utilization

The following project category was assessed as eligible with reference to ASEAN Taxonomy Foundation Framework:

- 17) Electricity Production from waste heat

DNV undertook an analysis of the associated project type to determine the eligibility as Green and in line with the Principles & Standards. DNV concludes that the eligible categories outlined in the Framework are consistent with the categories outlined in the Principles & Standards.

The proposed projects may be classified as Green in accordance with relevant criteria, as defined by the respective taxonomies. However, **DNV has identified a need for continual monitoring and reporting of issues related to Do No Significant Harm ("DNSH") and Minimum Social Standard ("MSS") requirements.**

2. Process for Project Evaluation and Selection

TPIPP's Green Financing Framework ensures net proceeds from Green Financing Instruments fund projects meeting specific eligibility criteria outlined in the "Use of Proceeds" section. The Green Finance Working Group (GFWG) oversees project evaluation, ensuring alignment with the Thailand Taxonomy, including substantial environmental contributions, adherence to the Do No Significant Harm principle, minimum social safeguards, and technical screening criteria where applicable. The GFWG approves project changes, updates to the framework, and allocation or impact reports. The process involves selecting and evaluating

projects, continuous monitoring, and managing environmental, health, and safety risks to ensure compliance and effective resource allocation throughout the instrument's lifetime.

DNV concludes that TPIPP's Framework appropriately describes the process for Project Evaluation and Selection outlined in the Principles & Standards.

3. Management of Proceeds

The proceeds are deposited into a segregated account within TPIPP's finance and reporting system, managed by the Accounting Team, which tracks disbursements quarterly using internal information systems. The Internal Audit team conducts annual verifications, ensuring compliance with the "Use of Proceeds" criteria, tracking allocation amounts, and reviewing material project changes until full allocation, which TPIPP aims to achieve within 12 months of issuance.

DNV has reviewed the evidence presented and concludes that the Framework appropriately describes the process for Management of Proceeds outlined in the Principles & Standards.

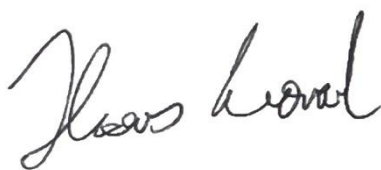
4. Reporting

TPIPP will publish an Allocation Report and an Impact Report annually on its website within one year of issuing GFIs and until full allocation, including updates for material changes. The Allocation Report details outstanding instruments, eligible project types, sectors, locations, descriptions, category splits, allocated vs. total proceeds, financing & refinancing shares, and unallocated balances. The Impact Report covers environmental outcomes per the Impact Indicators table in the Framework's Appendix, aligning, where feasible, with the "Handbook – Harmonised Framework for Impact Reporting (June 2024)" portfolio approach.

Based on the limited assurance procedures conducted, nothing has come to our attention that causes us to believe that the Green Bond/Loan is not, in all material respects, in accordance with the Pre-Issuance requirements of the associated include relevant green project category, and the GLP/GBP.

For DNV (Thailand) Co., Ltd.

Bangkok, Thailand / 17th July 2025



Thomas Leonard
Quality Reviewer



Kobrat Chotruangprasert
Lead Verifier

Schedule 1. Description of Categories to be financed or refinanced through the Customer's Green Financing Instruments

Eligible Green Project Categories	Eligible Criteria and Description	DNV Findings
<p>1) Renewable Energy – Solar</p>	<p>Scope: Construction and operation</p> <p>All solar energy generation is eligible</p>	<p>TIIPP existing solar projects are:</p> <ul style="list-style-type: none"> (1) Solar Farm 61.226 MW (2) Solar Rooftop 6 MW (3) Solar Farm Zone 3 (11.9925 MW) (4) Solar Farm Zone 4 (9 MW) (5) Additional Solar PV Power Plant (5.48 MW) <p>After reviewing relevant document, DNV confirms that the following assets fully meet the Green Technical Screening Criteria (TSC) and Do No Significant Harm (DNSH) of Thailand Taxonomy:</p> <ul style="list-style-type: none"> (1) Solar Farm 61.227 MW (May 2023); and (2) Solar Rooftop 6 MW (October 2023); and (3) Additional Solar PV Power Plant 5.48 MW. This additional solar PV Power Plant is an extension <p>DNV notes that TIIPP is preparing COP Monitoring Reports for Solar Farm Zone 3 (11.925 MW), Solar Farm Zone 4 (9 MW) and Additional Solar PV Power Plant (5.48 MW). DNV confirms that the 2 solar projects above meet the Green TSC of Thailand Taxonomy.</p> <p>As of July 2025, DNV cannot fully verify DNSH of Solar Farm Zone 3 and Zone 4. However, DNV notes that TIIPP will maintain DNSH compliance for all the existing solar projects. DNV notes that TIIPP is certified under ISO 140001¹.</p> <p>In the future, TIIPP plans to build the solar projects in a manner that meets Thailand Taxonomy Green TSC and DNSH criteria.</p>
<p>2) Renewable Energy – Bioenergy</p>	<p>Scope: Construction and operation</p> <p>New and existing facilities meeting the criteria for Bioenergy (to demonstrate they meet this threshold, issuers are required to conduct a life cycle assessment (LCA) of GHG emissions from their bioenergy in accordance with Taxonomy requirements):</p> <ul style="list-style-type: none"> - Facilities producing liquid biofuel, solid and gaseous biomass for heating and co-generation. Thresholds for biofuel/biomass produced/used (primary energy): 57.6g CO₂e/kWh 	<p>As of July 2025, TIIPP does not have any bioenergy power plants.</p> <p>In the future, TIIPP plans to build the bioenergy projects in a manner that meets Thailand Taxonomy Green TSC and DNSH criteria.</p>

¹ <https://www.tpipolene.co.th/th/aboutus/about-tpi/policy>

	<ul style="list-style-type: none"> - Facilities producing biofuel for transport. Thresholds for biofuel/biomass produced/used (primary energy): 67.7g CO₂e/kWh - Heating/cooling, and co-generation facilities using biofuel/biomass. Thresholds for biofuel/biomass produced/used (primary energy): 57.6g CO₂e/kWh <p>All types of feedstocks are eligible, including residues, energy crops and lignocellulosic biomass such as straw, with three exceptions:</p> <ul style="list-style-type: none"> - Wood (and all woody biomass) - Algae - Biodegradable Municipal Solid Waste (MSW), including sewage sludge and food waste <p>Feedstocks used for production of bioenergy should comply with the guidelines from one of the following bodies:</p> <ul style="list-style-type: none"> - Forest Stewardship Council (FSC); - Biomass Biofuels voluntary scheme (2BSvs); - Bonsucro; - International Sustainability and Carbon Certification (ISCC Plus); - Roundtable of Sustainable Biomaterials (RSB) - Round Table on Responsible Soy (RTRS) 	
<p>3) Renewable Energy – Cogeneration</p>	<p>Scope: Construction and operations</p> <ul style="list-style-type: none"> - The lifecycle GHG emissions from the co-generation of heat/cool and power from renewable energy sources meets declining green threshold 2022-2040: 100 gCO₂e/kWh Post 2040: 50 gCO₂e/kWh - The underlying renewable source of cool/heat and energy (solar, wind, bioenergy etc.) must comply with the green criteria for the respective 	<p>As of July 2025, TPIPP does not have any cogeneration power plant.</p> <p>In the future, TPIPP plans to build the cogeneration projects in a manner that meets Thailand Taxonomy Green TSC and DNSH criteria.</p>

	<p>source of energy from the present Taxonomy</p> <ul style="list-style-type: none"> - Lifecycle GHG emissions will be calculated based on project-specific data, where available, using ISO 14064-1:2018 or ISO 14064-2:2019 or equivalent 	
4) Heating and Cooling using waste heat	<p>Scope: Operations only</p> <ul style="list-style-type: none"> - The activity produces heating/cooling from waste heat 	<p>As of July 2025, TPIPP does not have any heating/cooling using waste heat project.</p> <p>In the future, TPIPP plans to build the heating and cooling distribution projects in a manner that meets Thailand Taxonomy Green TSC and DNSH criteria.</p>
5) Heating and Cooling distribution	<p>Scope: Construction and operations</p> <ul style="list-style-type: none"> - The system uses at least 50% renewable energy or 50% waste heat or 75% cogenerated heat or 50% of a combination of such energy and heat. 	<p>As of July 2025, TPIPP does not have any heating or cooling distribution project.</p> <p>In the future, TPIPP plans to build the heating and cooling distribution projects in a manner that meets Thailand Taxonomy Green TSC and DNSH criteria.</p>
6) Transmission and Distribution Infrastructure – Transmission and Distribution networks for renewable and low carbon gases, including green hydrogen	<p>Scope: Construction, operations, and retrofitting</p> <ul style="list-style-type: none"> - Transmission and distribution networks for low-carbon gases and green hydrogen are eligible. - Retrofit of natural gas distribution lines to allow 100% green hydrogen or other low carbon gases. - The activity includes leak detection and repair of existing gas pipelines and other network elements to reduce methane leakage. - Low carbon gases” means the gases whose lifecycle GHG emissions from the generation of electricity do not exceed the limits specified in the declining green threshold 2022-2040: 100 gCO_{2e}/kWh Post 2040: 50 gCO_{2e}/kWh 	<p>As of July 2025, TPIPP does not have any transmission and distribution infrastructure – transmission and distribution networks for renewable and low carbon gases, including green hydrogen.</p> <p>In the future, TPIPP plans to build the Transmission and Distribution Infrastructure for renewable and low carbon gases projects in a manner that meets Thailand Taxonomy Green TSC and DNSH criteria.</p>
7) Energy Storage – Storage of electricity and thermal energy	<p>Scope: Construction and operations</p> <ul style="list-style-type: none"> - All electricity and green hydrogen storage systems are eligible. - All thermal energy storage systems where the generated energy falls below 100 gCO_{2e}/kWh measured on life cycle emission basis are eligible 	<p>As of July 2025, TPIPP has existing Battery Energy Storage System projects (BESS) attached to the solar farm.</p> <p>DNV confirms that the BESS assets attached to the solar farm assets fully meets Thailand Taxonomy Green TSC and DNSH criteria.</p> <p>In the future, TPIPP plans to build the BESS projects in the manner that meet Thailand Taxonomy Green TSC and DNSH criteria.</p>

	(including geothermal energy storage).	
8) Transmission and Distribution Infrastructure – Transmission and distribution of electricity	<p>Scope: Construction and operations</p> <ul style="list-style-type: none"> - Transmission and distribution infrastructure dedicated to a direct connection or an expansion of connection between power plants with energy intensities less than 100 gCO₂e/kWh (life cycle emissions), or infrastructure that is on a decarbonization trajectory where at least 67% of the newly connected generation capacity in the system is below the generation threshold value of 100 gCO₂e/kWh measured on a Product Carbon Footprint (PCF) basis, over a rolling five-year period. - The average system grid emissions factor is below the threshold value of 100 gCO₂e/kWh measured on a PCF basis, over a rolling five-year average period. - All enabling ICT systems and smart management systems for the eligible infrastructure. 	<p>As of July 2025, TPIPP has one existing line for the transmission and distribution of electricity generated from TPIPP’s solar farm to its cement manufacturing plant.</p> <p>DNV confirms that the existing transmission and distribution Infrastructure of electricity meets Thailand Taxonomy Green TSC and DNSH criteria.</p> <p>In the future, TPIPP plans to build electricity transmission and distribution projects in a manner that meets Thailand Taxonomy Green TSC and DNSH criteria.</p>
9) Green Transport – Freight transport by road	<p>Scope: Operations only</p> <p>The activity complies with the following criteria:</p> <ul style="list-style-type: none"> - direct (tailpipe) CO₂ emissions of vehicles are zero AND - vehicles are not dedicated to fossil fuel transport 	<p>As of July 2025, TPIPP has invested in electric vehicles for their own operation.</p> <p>DNV confirms that the existing electric vehicles assets fully meet Thailand Taxonomy Green TSC and DNSH criteria.</p> <p>In the future, TPIPP plans to further invest in electric vehicles in a manner that meets Thailand Taxonomy Green TSC and DNSH criteria.</p>
10) Transport Infrastructure – Enabling infrastructure for low emission transport	<p>Scope: Construction and operations</p> <ul style="list-style-type: none"> - Personal mobility or cycle logistics: pavements, bike lanes and pedestrian zones, electrical charging and hydrogen refuelling installations for personal mobility devices. <p>Road transport:</p> <ul style="list-style-type: none"> - Electric charging points, electricity grid connection upgrades, hydrogen 	<p>As of July 2025, TPIPP has invested in 4 electrical charging stations (3 in Amphur Muak Lek, Saraburi, and 1 in Amphur Muaeng, Saraburi) and electricity grid connection upgrades for road transport. The electrical charging points are installed in existing TPIPP’s fuel stations.</p> <p>DNV confirms that the existing electric charging points fully meet Thailand Taxonomy Green TSC and DNSH criteria.</p> <p>In the future, TPIPP plans to further invest in infrastructure for low-emission transport in a manner that meets Thailand Taxonomy Green TSC and DNSH criteria.</p>

	<p>fuelling stations or electric road systems (ERS).</p> <ul style="list-style-type: none"> - The infrastructure and installations are dedicated to transshipping freight between the modes: terminal infrastructure and superstructures for loading, unloading and transshipment of goods. - The infrastructure and installations are dedicated to urban and suburban public passenger transport, including associated signalling systems for metro, tram and rail systems. 	
<p>11) Waste Management – Collection and Transport of Municipal Solid Waste (EO4)</p>	<p>Hazardous & Non-Hazardous Municipal Solid Waste</p> <ol style="list-style-type: none"> 1. Before 31 December 2029, waste is segregated at source (i.e., before formal collection), or at an intermediate sorting facility into the following waste streams: general waste, municipal hazardous waste, recyclable waste, biowaste, and infectious waste (where applicable). Collection and transportation of specific segregated waste stream(s) is eligible; AND 2. After 31 December 2029, waste is segregated at source (i.e., before formal collection) into the following waste streams: general waste, municipal hazardous waste, recyclable waste, bio-waste, and infectious waste (where applicable). Collection and transportation of specific segregated waste stream(s) is eligible; AND 3. Waste is transported to a location with the intention of preparation for material recovery (reuse or recycling) or energy recovery (WtE), ensuring material recovery is prioritised over energy recovery. If recovery of 	<p>As of July 2025, TPIPP has invested in collection and transport of municipal solid waste projects. Municipal solid waste utilised for RDF production are from sorted landfill waste, unsorted landfill waste, and direct municipal waste received from authorised waste management companies. All types of municipal solid waste (pre-sorted and not pre-sorted) will be delivered to TPIPP’s material sorting facility for quality control. Recyclables (glass, metal, non-ferrous residues, etc.) and hazardous waste are separated prior to incineration. TPIPP does not collect or transport WEEE.</p> <p>Before incineration at TPIPP’s waste-to-energy (WtE) plant, municipal solid waste is sorted at TPIPP’s material recovery facility to ensure that recyclables and hazardous waste are removed. For waste supply chains where TPIPP does not have direct contact with municipality, recyclables are pre-sorted by the suppliers. The result of TPIPP waste input monitoring does not detect any recyclables from the waste input received from waste suppliers</p> <p>After pre-shredding, organic waste is separated using a drum screen and sent to a fertilizer plant. Glass, metals, and non-ferrous residues are extracted using a magnetic separator, fine screen, and eddy current separator, then delivered to external manufacturing plants for use as secondary raw materials. The fine screen and air classifier collect fine materials suitable for cement manufacturing.</p> <p>According to the Thailand Taxonomy, the sorting of municipal solid waste at TPIPP’s intermediate material recovery facility qualifies as a Green TSC until December 31, 2029. After this date, segregation of municipal solid waste must occur at the source to meet Green TSC requirements (See Figure 1: RDF Plant).</p> <p>After municipal solid waste is sorted at TPIPP’s material recovery facility, it is sent to TPIPP’s WtE plant in Saraburi. TPIPP’s WtE plant in Saraburi (TG1,2,3,5,6,7 and8) meets Green TSC of Thailand Taxonomy. However, compliance under Thailand</p>

	<p>waste is not permitted by law, it must be transported to a location with the intention of waste disposal by a competent waste treatment facility; AND</p> <ol style="list-style-type: none"> 4. The transportation vehicle conforms to Transportation Requirements set out in Description Note 4 of this Activity; AND 5. For WEE <ol style="list-style-type: none"> a. collection and transport preserve the integrity of WEEE and prevent the leakage of hazardous substances such as ozone-depleting substances, fluorinated greenhouse gases or mercury contained in fluorescent lamps; AND b. A management system to manage environmental, health and safety risks is in place; AND c. WEEE is delivered to a legally approved waste management facility. 	<p>Taxonomy DNSH requirements Pollution Prevention and Control DNSH (EO5 in Thailand Taxonomy) of TG8 needs to be carefully monitored.</p> <p>TIIPP confirms that the vehicles operating under their own operation and under the supplier's operation are maintained regularly and are in compliance with Transportation Requirements set out in Thailand Taxonomy.</p> <p>DNV confirms that the existing activity of collection and transport of municipal solid waste meets EO4 Green TSC (until 31 December 2029) and DNSH criteria of Thailand Taxonomy.</p> <p>In the future, TIIPP plans to collect and transport municipal solid waste in a manner that meets Thailand Taxonomy Green and DNSH criteria. In areas where TIIPP directly collects and transports municipal solid waste, such as Mukdahan and Songkhla, TIIPP collaborates with local municipalities to promote waste segregation at source by providing training and color-coded bins. In areas where suppliers handle waste collection and transport, TIIPP will encourage them to partner with local municipalities and communities to enhance waste segregation at source.</p>
<p>12) Waste Management – Collection and Transport of Industrial Waste (EO4)</p>	<p>Industrial Waste -Hazardous & Non-Hazardous</p> <ol style="list-style-type: none"> 1. Waste is segregated at source (i.e., before formal collection); AND 2. Waste is transported to a location with the intention of preparation for material recovery (reuse or recycling) or energy recovery, ensuring material recovery is prioritised over energy recovery; AND 3. The transportation vehicle conforms to Transportation Requirements set out in Description Note 4 of this Activity. 	<p>As of July 2025, TIIPP has invested in collection and transport of industrial non-hazardous waste projects. TIIPP collects or purchases only non-hazardous waste from industrial sources. The non-hazardous industrial waste collected or purchased for incineration has lower financial incentives compared to those collected or purchased for material recovery. By default, TIIPP acquires non-hazardous industrial waste at a lower price than that offered by recycling facilities, meaning that economic incentives typically direct non-hazardous industrial waste toward material recovery rather than energy recovery. A list of industrial waste suppliers can be found on TG8's EIA Report.</p> <p>TIIPP confirms that the vehicles operating under their own operation and under the supplier's operation are maintained regularly and are in compliance with Transportation Requirements set out in Thailand Taxonomy.</p> <p>After reviewing relevant documents and following discussions with TIIPP, DNV confirms that the current activities of collecting and transporting industrial waste comply with the EO4 Green TSC and DNSH requirements of Thailand Taxonomy Phase 2.</p> <p>In the future, TIIPP plans to collect and transport municipal solid waste in a manner that meets Thailand Taxonomy Green TSC and DNSH criteria.</p>

<p>13) Waste Management – Collection and Transport of Crop Residues Waste (EO5)</p>	<p>Crop Residues Waste</p> <ol style="list-style-type: none"> 1. Collection, transport, storage, and delivery of crop residues that are segregated at source (i.e., before formal collection), or at an intermediate sorting facility, to a location with the intention of preparation for material recovery (reuse or recycling) or Taxonomy-eligible energy recovery (Green or Amber bioenergy power plants), ensuring crop residues waste is not burned in an open space; AND 2. The transportation vehicle conforms to Transportation Requirements set out in Description Note 4 of this Activity. 	<p>As of July 2025, TPIPP does not operate the activity of collection and transport of crop residues waste.</p> <p>In the future, TPIPP plans to collect and transport crop residues waste in a manner that meets Thailand Taxonomy Green TSC and DNSH criteria.</p>
<p>14) Waste Management – Collection and Transport of Industrial Hazardous and Municipal Hazardous Waste (EO5)</p>	<p>Industrial Hazardous Waste and Municipal Hazardous Waste</p> <ol style="list-style-type: none"> 1. Collection, transport, storage and delivery of hazardous waste to the permitted treatment facility is managed according to applicable national and international legislation: <ol style="list-style-type: none"> a. Hazardous waste is segregated at source (i.e. before formal collection) and collected separately from non-hazardous waste, is not mixed nor diluted either with other materials; AND b. Proper collection and handling prevent leakage of hazardous waste during collection, transport, storage and delivery to the permitted treatment facility; AND c. During collection and transport, hazardous waste is packaged and labelled; AND d. The operator collects record of hazardous 	<p>As of July 2025, TPIPP does not operate the activity of collection and transport of hazardous waste.</p> <p>In the future, TPIPP plans to collect and transport hazardous waste in a manner that meets Thailand Taxonomy Green TSC and DNSH criteria.</p>

	<p>waste including quantity, nature, origin, destination, frequency of collection, mode of transport and treatment method; AND</p> <p>e. Where a given waste classified as hazardous has also a transport status of dangerous goods under the Agreement concerning the International Carriage of Dangerous Goods by Road (ADR), the transport complies with the relevant requirements set by the ADR; AND</p> <p>f. When the waste is stored, the activity complies with the requirements set out in national law; AND</p> <p>g. Rehearsal of hazardous waste spill emergency response plan and inspection of necessary equipment is conducted at the frequency identified by national regulations; AND</p> <p>h. The transportation vehicle is installed with a GPS tracking system, vehicle logbook, and transportation document for at least 1 year or as identified by national regulations;</p> <p>AND</p> <p>2. The transportation vehicle conforms to Transportation Requirements set out in Description Note 4 of this Activity; AND</p> <p>3. For WEEE:</p> <p>a. collection and transport preserve the integrity of WEEE and prevent the leakage of hazardous substances</p>	
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	<p>such as ozone-depleting substances, fluorinated greenhouse gases or mercury contained in fluorescent lamps; AND</p> <p>b. A management system is set up by the collection and logistics operator to manage environmental, health and safety risks; AND</p> <p>c. WEEE is delivered to a legally approved waste management facility for dismantling and stripping</p>	
<p>15) Waste Management – Waste-to-Energy</p>	<ol style="list-style-type: none"> 1. High quality recyclables and hazardous waste portions have been removed before entering the incineration process. Recyclables are sent for material recovery. Hazardous waste is sent for material recovery or appropriate disposal if recovery is not possible; AND 2. Plant efficiency is not less than 25%; AND 3. Partial Bottom ash recovery (in as much as permitted by national law) with at least 75% recovery of metal from ash. This activity could take place in an off-site location; AND 4. The bottom ash and fly ash management system is in place, ensuring no leakage of hazardous substances; AND 5. Pre-operational Waste-to-Energy (WtE) plant conducts a baseline environmental assessment, minimally 	<p>As of July 2025, TPIPP has 7 Turbine & Generators operating or converting to be operational on RDF as fuel input:</p> <ol style="list-style-type: none"> (1) TG1 (20 MW). Fuel is combined RDF and Waste Heat from cement manufacturing. Calculation of TG1 plant efficiency excluding heat waste input is 26.93% at 88.0% boiler efficiency, and 25.4% at 83% boiler efficiency; (2) TG2 (20 MW). Fuel is combined RDF and Waste Heat from cement manufacturing. Calculation of TG2 plant efficiency excluding heat waste input is 26.93% at 88.0% boiler efficiency, and 25.4% at 83% boiler efficiency; (3) TG3 (20 MW). Fuel is combined RDF and Waste Heat from cement manufacturing. Calculation of TG3 plant efficiency (excluding heat waste) is 26.93% at 88.0% boiler efficiency, and 25.4% at 83% boiler efficiency; (4) TG5 (60 MW). Fuel is RDF from municipal solid waste and non-hazardous industrial waste. Calculation of TG5 plant efficiency is 26.22% at 80% boiler efficiency; (5) TG6 (70 MW) Fuel is 100% RDF input from municipal non-hazardous waste Calculation of TG6 plant efficiency from 100% RDF input is 28.80% at 85% boiler efficiency. (6) TG7 (40 MW). As of July 2025, TG8 is still operating on coal but is transitioning to 100% RDF by end of 2025. Calculation of TG7 plant efficiency from 100% RDF input is 28.8% at 85% boiler efficiency.

	<p>addressing air quality and odour nuisance, prior to commencement of operations. The result is provided to stakeholder upon request. Operational WtE plant, upon stakeholder request, provides Energy Regulatory Commission audited Code of Practice Monitoring reports, including Continuous Emissions Monitoring Systems (CEMS) data; AND</p> <p>6. WtE possesses a certified environmental management system, verified by a qualified third-party, that ensures effective pollution control and monitoring.</p>	<p>(7) TG8 (150 MW). As of July 2025, TG8 is still operating on coal but is transitioning to 100% RDF by end of 2025. TPIPP plans to invest in three new boilers to enable TG8 to operate exclusively on RDF. RDF is sourced through long-term contracts with municipal solid waste collectors and industries, including paper manufacturing. However, the existing coal boiler will be retained as a backup in case of RDF boiler failure. Calculation of TG8 plant efficiency from 100% RDF input at 91.50% boiler efficiency.</p> <p>TG1&2&3 operates on a combined waste heat and RDF. The fuel for the project includes waste hot air from cement production and Refuse-Derived Fuel (RDF). Hot air, sourced from the Preheater Tower (317–356°C) and Clinker Cooler (420–451°C) of three cement production lines, is channeled to boilers for heat exchange, then returned to cement production. After the retrofit, TG1&2&3 will be able to accept RDF as an additional input. TG1&2&3 design is provided in the Figure below this table.</p> <p>Prior to incineration, municipal solid waste is sorted at TPIPP’s material recovery facility into different types of RDF waste as per ASTM E-75 standards. This ensures that recyclables and hazardous waste have been pre-sorted. After pre-shredding, organic waste is sorted by drum screen and is delivered to fertiliser plant. Glass, metal, and non-ferrous residues are separated by magnetic separator, fine screen and eddy current separator before being sent to external manufacturing plant to be used as secondary raw material. Fine screen and air classifier collects fine material which can be used for cement manufacturing (See Figure 1: RDF Flow Chart).</p> <p>Segregation of industrial non-hazardous waste at source is one of the pre-requisites for TPIPP.</p> <p>Bottom ash is recovered off-site. TPIPP has submitted a bottom ash management procedure to DNV and can confirm that metal ash recovery is more than 75% (See Figure 2: Bottom Ash Management Procedure). TPIPP is developing an Incinerator Bottom Ash (IBA) plant to complement its incineration facility, processing 2,000 tons of heavy ash waste daily from steam boiler combustion. The plant will separate and recycle ash into construction materials, like substitutes for shale in cement and sand for construction, while redirecting recovered metals to recycling plants.</p> <p>Air quality and odour nuisance control procedures are stated in the EIA document of each TG. CEMs Report are uploaded into the EIA report.</p> <p>(1) TG1, TG2 and TG3 CEMs Report: Annex A-36 page 69-75</p> <p>(2) TG5 CEMs Report: Annex C page 14-17</p> <p>(3) TG6 CEMs Report: Annex C-1 page 48-51</p> <p>(4) TG7 CEMs Report: Annex B-1 page 11-13</p> <p>(5) TG8 CEMs Report: Annex D-1.4 page 45-51</p>
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<p>16) Waste Management – Landfill gas capture and utilization</p>	<ol style="list-style-type: none"> 1. The landfill or landfill cell where the gas capture system is implemented is permanently closed and is not taking in further waste; AND 2. A monitoring and contingency plan is in place in order to minimize methane leakage at the facility; AND 	<p>As of July 2025, TPIPP does not operate the activity of landfill gas capture and utilisation.</p> <p>For the future projects, TPIPP plans to invest in landfill gas capture and utilisation projects that meet Thailand Taxonomy Green TSC and DNSH criteria.</p>

	<p>3. The produced biogas is used directly for the generation of electricity or heat, or upgraded to bio-methane for injection in the natural gas grid, or used as vehicle fuel or as feedstock in chemical industry.</p>	
<p>17) Energy - Electricity Production from waste heat</p>	<p>Scope: Construction and operation</p>	<p>TG4 utilizes only the thermal energy from the waste hot air generated by the cement production process at the Preheater Tower and Clinker Cooler, instead of relying solely on fuel combustion. Hot air is channeled through insulated pipes to produce steam via SP and AQC Boilers, with dust removal at the DSC for the Clinker Cooler air. The project relies entirely on this waste heat and ceases operation if the cement plant stops, without using any backup fuel.</p> <p>Neither the Thailand Taxonomy nor the ASEAN Taxonomy Plus Standards list electricity production from waste heat as a category eligible for classification, although both list heating/cooling from waste heat.</p> <p>For this reason, DNV refers to the ASEAN Taxonomy Foundation Framework ("FF") in order to assess TG4, as described in Schedule 6. This shows that the TG4 meets the Green criteria as defined in the ASEAN Taxonomy FF. DNV refers to Thailand Taxonomy Heating and Cooling Production from waste heat for DNSH assessment of this activity due to its similarity in the nature of operation.</p>

Exclusion Criteria

TPIPP’s financing proceeds shall not be utilized towards the following activities:

- Projects related to the acquisition, development, operation and maintenance of new or existing fossil fuel-based electricity generation capacity or heating systems (including, but not limited to, coal, oil or natural gas-powered assets). For the sake of clarity, this exclusion is not applicable in the case of cogeneration assets meeting the Technical Eligibility Criteria; and
- Transmission and distribution infrastructure dedicated to directly and solely connecting or expanding existing direct connection to production plants that are fossil-fuel based; and
- Projects that are deemed to infringe on international norms, rules, and regulations (including, but not limited to):
 - a. Basel Convention on the Control of Transboundary Movements of Hazardous Waste and their Disposal
 - b. Convention on International Trade in Endangered Species of Wild Fauna and Flora
 - c. Convention on Biological Diversity
- Projects that do not adhere to the relevant local regulatory framework and policies, relevant internationally recognized principles and conventions relating to social impact and minimum social safeguards (including, but not limited to):
 - a. International Labour Organization core conventions
 - b. International Bill of Human Rights conventions
 - c. International Finance Corporation (IFC) Performance Standards, where applicable
- For the avoidance of doubt, the allocation of proceeds from any issuance to the above Eligible Green Projects shall comply with ASEAN Taxonomy V3 and/or Thailand Taxonomy requirements – proceeds shall be allocated exclusively to activities that have been assessed and classified as "Green" (or equivalent to Green with full DNSH and Minimum Social Safeguard (MSS) compliance referring to

Thailand Taxonomy or Essential Criteria (EC) referring to ASEAN Taxonomy. Activities currently classified as "Amber" under ASEAN Taxonomy or "Green" with limited DNSH or MSS compliance are explicitly excluded from receiving any proceeds until such activities successfully meet both DNSH and MSS/EC as per ASEAN Taxonomy (MSS as per Thailand Taxonomy) requirements, thereby achieving Green classification.

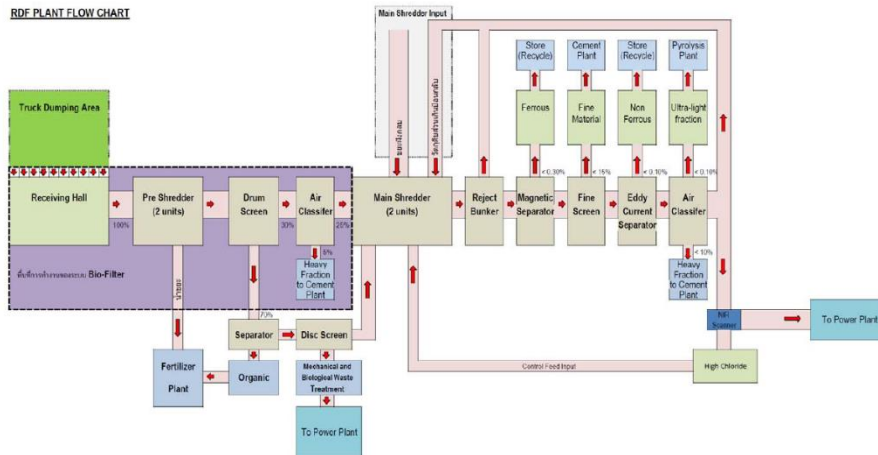


Figure 1: RDF Plant Flow Chart (replicated from TG7 EIA Report page 2-29)

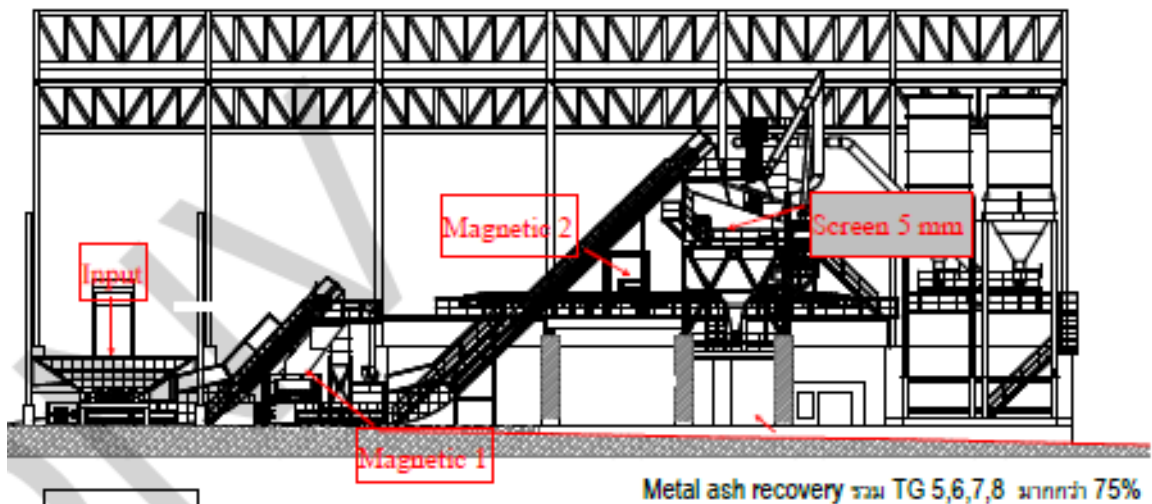


Figure 2: Bottom Ash Management Procedure (the document received from TPIPP during the assessment)

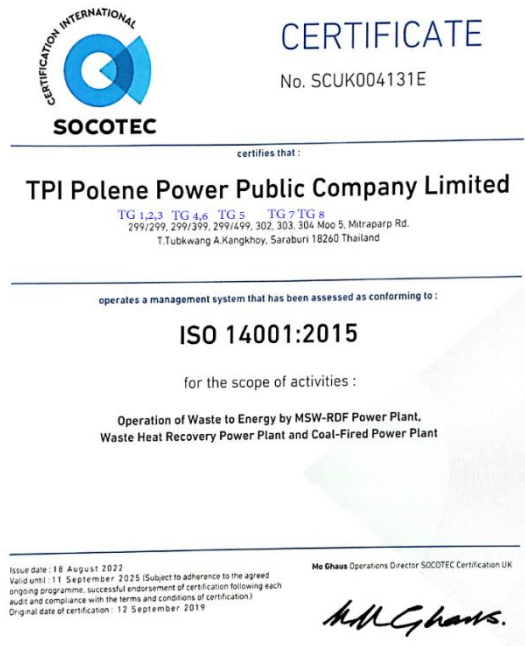
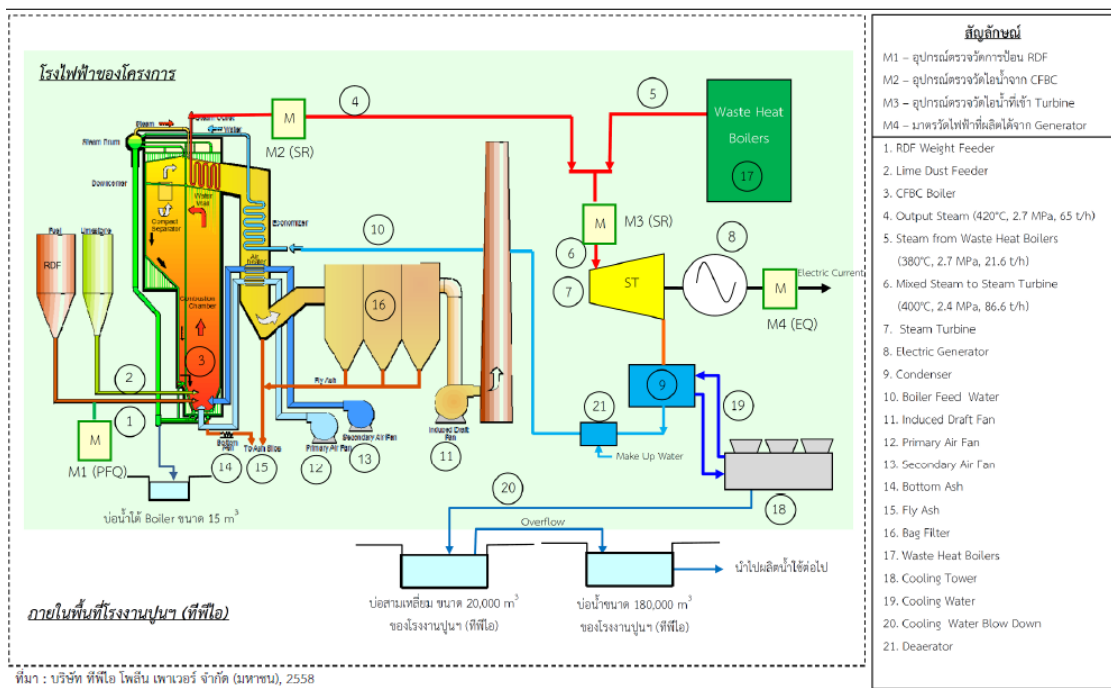


Figure 3: ISO 14001 certificate related to the operation of TG1-8



รูปที่ 2.9-1: แผนภาพกระบวนการผลิตของโรงไฟฟ้าส่วนที่ใช้ RDF เป็นเชื้อเพลิง

Figure 4: TG1&2&3 Electricity Production Process (TG1&2&3 EIA Report page 2-73)

Schedule 2. Contributions to UN SDGs

Project Category	Sub-category	UN SDGs	DNV Findings
Energy	(1) Solar (2) Bioenergy (3) Cogeneration (4) Heating and Cooling using waste heat (5) Heating and Cooling distribution (6) Transmission and Distribution networks for renewable and low carbon gases, including green hydrogen (7) Storage of electricity and thermal energy (8) Transmission and distribution of electricity	UN SDG7: Affordable and Clean Energy UN SDG13: Climate Action	DNV is of the opinion that the eligible category outlined in the Framework contributes to the achievement of the UN SDGs.
Transport	(9) Freight transport by road (10) Enabling infrastructure for low emission transport	UN SDG9: Industry, Innovation and Infrastructure UN SDG11: Sustainable Cities and Communities UN SDG13: Climate Action	
Waste Management	(11) Collection and Transport of Municipal Solid Waste (EO4) (12) Collection and Transport of Industrial Waste (EO4) (13) Collection and Transport of Crop Residues Waste (EO5) (14) Collection and Transport of Hazardous Waste (EO5) (15) Waste-to-Energy (16) Landfill gas capture and utilization	UN SDG7: Affordable and Clean Energy UN SDG11: Sustainable Cities and Communities UN SDG12: Responsible Consumption and Production UN SDG13: Climate Action	
Energy	(17) Electricity Production from Waste Heat	UN SDG7: Affordable and Clean Energy UN SDG13: Climate Action	

Schedule 3. Eligibility Assessment Protocol

3.1 Use of Proceeds

Ref.	Criteria	Requirements	DNV Findings
1a	Type of Bond /Loan	<p>The Bond/Loan must fall in one of the following categories, as defined by the Principles & Standards:</p> <ul style="list-style-type: none"> • Green Use of Proceeds Bond • Green Use of Proceeds Revenue Bond • Green Project Bond • Green Securitized Bond • Loan instrument made available for Green project (Green use of loan proceeds) 	<p>The Framework states that the GFIs are Green Use of Proceeds Bond/Loan</p> <p>The reviewed evidence confirms that the Green Financing Instruments meet the criteria under the Principles, and DNV confirms this process to be well aligned with the Principles.</p>
1b	Green Project Categories	<p>The cornerstones of Green Bonds and Loans are the utilization of the proceeds of the bonds or the loans which should be appropriately described in the legal documentation for the security.</p>	<p>Eligible existing project categories for refinancing presented by TPIPP are as follows:</p> <ol style="list-style-type: none"> 1. Energy - Solar 2. Energy - Storage of electricity and thermal energy 3. Energy - Transmission and distribution of electricity 4. Transport – Freight transport by road 5. Transport – Enabling infrastructure for low emission transport 6. Waste Management – Collection and Transport of Municipal Solid Waste (EO4) 7. Waste Management – Collection and Transport of Industrial Waste (EO4) 8. Waste Management – Waste-to-Energy 9. Energy – Production from Electricity from Waste Heat <p>Future project categories for financing presented by TPIPP are as follows:</p> <ol style="list-style-type: none"> 1. Renewable Energy – Bioenergy 2. Renewable Energy – Cogeneration 3. Heating and Cooling using waste heat 4. Heating and Cooling distribution 5. Transmission and Distribution Infrastructure – Transmission and Distribution networks for renewable and low carbon gases, including green hydrogen 6. Waste Management – Collection and Transport of Crop Residues Waste (EO5) 7. Waste Management – Collection and Transport of Hazardous Waste (EO5) 8. Waste Management – Landfill gas capture and utilization 9. Sorting and material recovery from non-hazardous waste

			The above-mentioned project category meets the Eligible Green Project Categories in the Principles & Standards.
1c	Environmental Benefits	All designated Green Project categories should provide clear environmentally sustainable benefits, which, where feasible, will be quantified or assessed by the Issuer.	<p>The impact of Green Projects can be quantified or assessed in terms of annual GHG emissions reduced/avoided (tCO₂e), amount of waste separated and/or collected, and treated or disposed of (tonnes/annum), annual energy savings (MWh), etc.</p> <p>DNV confirms that the proposed use of proceeds will reasonably be expected to deliver meaningful environmental benefits.</p>
1d	Refinancing Share	In the event that a proportion of the proceeds may be used for refinancing, it is recommended that issuers provide an estimate of the share of financing vs. refinancing, and where appropriate, also clarify which investments or project portfolios may be refinanced.	<p>According to TPIPP’s Green Financing Framework, the proceeds will be used for refinancing the following projects:</p> <ol style="list-style-type: none"> 1. Energy - Solar 2. Energy - Storage of electricity and thermal energy 3. Energy - Transmission and distribution of electricity 4. Transport – Freight transport by road 5. Transport – Enabling infrastructure for low emission transport 6. Waste Management – Collection and Transport of Municipal Solid Waste (EO4) 7. Waste Management – Collection and Transport of Industrial Waste (EO4) 8. Waste Management – Waste-to-Energy 9. Energy – Production from Electricity from Waste Heat <p>The proposed management of net proceeds from the Green Finance Instruments is confirmed by DNV to reasonably be expected to meet the criteria under the Principles & Standards.</p>

3.2 Process for Project Selection and Evaluation

Ref.	Criteria	Requirements	DNV Findings
2a	Investment-Decision Process	<p>The Issuer of a Green Bond and Loan should outline the decision-making process it follows to determine the eligibility of projects using Green Bond and Loan proceeds. This includes, without limitation:</p> <ul style="list-style-type: none"> • The environmental objectives of the eligible Green Projects; • The process by which the issuer determines how the projects fit within the eligible Green 	<p>The Green Finance Working Group (GFWG) at TPIPP oversees the investment decision process for Green Financing Instruments, ensuring proceeds fund projects aligned with the “Use of Proceeds” criteria and Thailand Taxonomy. The GFWG evaluates, selects, and approves projects, monitors their performance, and approves allocation and impact reports for transparency. This ensures funds are used effectively, supporting sustainable outcomes like SDG 7 (Affordable and Clean Energy), SDG 11 (Sustainable Cities), SDG 12 (Responsible Consumption), and SDG 13 (Climate Action).</p> <p>Projects are deemed eligible if they contribute to one of six environmental objectives (e.g., climate change mitigation, pollution prevention, biodiversity protection), adhere to the Do No Significant Harm (DNSH) principle, comply with Minimum Social Safeguards (MSS), and, where applicable, meet Technical Screening Criteria (TSC). The GFWG assesses alignment during evaluation, approves changes if projects diverge from criteria (e.g., due to divestment), and ensures ongoing compliance through monitoring.</p>

		<p>Projects categories; and</p> <ul style="list-style-type: none"> Complementary information on processes by which the issuer identifies and manages perceived environmental and social risks associated with the relevant project(s). 	<p>Environmental, health, and safety (EH&S) risks are identified and managed during evaluation and monitoring phases. The GFWG ensures projects uphold social and environmental standards, mitigating risks while delivering measurable benefits. This structured process, with robust oversight and reporting, ensures TPIPP's green investments drive sustainable development effectively.</p> <p>DNV confirms this process for project selection and evaluation to be well aligned with the Principles & Standards.</p>
2b	Issuer/Borrower's Environmental and Governance Framework	<p>Issuers are also encouraged to:</p> <ul style="list-style-type: none"> Position the relevant information within the context of the issuer's overarching objectives, strategy, policy and/or processes relating to environmental sustainability. Provide information, if relevant, on the alignment of projects with official or market-based taxonomies, related eligibility criteria Have a process in place to identify mitigants to known material risks of negative environmental and/or social impacts from the relevant project(s). 	<p>TPIPP Green Projects align with TPIPP's vision which is "to be a leader in efficient renewable energy and is a producer of clean, green energy (Clean and Green Energy Producer), focusing on developing technology and innovation in every dimension of business operations. For sustainable growth in both economic, environmental and social dimensions under good corporate governance".</p> <p>Projects are aligned with the Thailand Taxonomy by contributing to at least one of six environmental objectives (e.g., pollution prevention), as defined by TSC, and by adhering to the DNSH, and MSS criteria. The GFWG ensures compliance through rigorous evaluation and approves adjustments if projects deviate from eligibility due to changes like divestment or technology shifts.</p> <p>To mitigate environmental and social risks, the GFWG identifies EH&S risks during evaluation, implements mitigation strategies, and monitors projects continuously. If risks emerge, corrective actions are approved to maintain alignment with sustainability goals. Transparent reporting ensures stakeholders are informed about fund allocation and project impacts, reinforcing TPIPP's commitment to responsible investment.</p> <p>DNV confirms that TPIPP's environmental, social, and governance (ESG) strategies and grouping of projects with eligibility criteria, are well aligned with the Principles & Standards.</p>

3.3 Management of Proceeds

Ref.	Criteria	Requirements	DNV Findings
3a	Tracking Procedure	<ul style="list-style-type: none"> (Bond) The net proceeds of Green Bonds should be credited to a sub-account, moved to a sub-portfolio or otherwise tracked by the Issuer in an appropriate manner and attested to by a formal internal 	<p>The proceeds are deposited into a segregated account within TPIPP's finance and reporting system, managed by the Accounting Team, which tracks disbursements quarterly using internal information systems.</p> <p>DNV confirms that the Framework outlines processes to track proceeds and allocations to the nominated projects, that are well aligned with the Principles & Standards.</p>

		<p>process that will be linked to the Issuer’s lending and investment operations for Green Projects.</p> <ul style="list-style-type: none"> • (Loan) The proceeds of Green Loans should be credited to a dedicated account or otherwise tracked by the borrower in an appropriate manner, so as to maintain transparency and promote the integrity of the product. Where a green loan takes the form of one or more tranches of a loan facility, each green tranche(s) must be clearly designated, with proceeds of the green tranche(s) credited to a separate account or tracked by the borrower in an appropriate manner. 	
3b	Tracking Procedure	<p>So long as the Green Bonds or Loans are outstanding, the balance of the tracked proceeds should be periodically reduced by amounts matching eligible green investments or loan disbursements made during that period.</p>	<p>The Internal Audit team conducts annual verifications, ensuring compliance with the “Use of Proceeds” criteria, tracking allocation amounts, and reviewing material project changes until full allocation, which TPIPP aims to achieve within 12 months of issuance.</p> <p>DNV confirms that the Framework outlines processes to track proceeds and allocations to the nominated projects, that are aligned with the Principles & Standards.</p>
3c	Temporary Holdings	<p>Pending such investments or disbursements to eligible Green Projects, the Issuer should make known to investors the intended types of temporary investment instruments for the balance of unallocated proceeds.</p>	<p>Unallocated GFI proceeds are held in cash, cash equivalents, or short-term, liquid securities aligned with a low-carbon climate-resilient economy or used to temporarily reduce compatible revolving debt.</p> <p>DNV confirms that the Framework outlines instruments to which unallocated proceeds will be invested, that are well aligned with the Principles & Standards.</p>

3.4 Reporting

Ref.	Criteria	Requirements	DNV Findings
4a	Periodical Reporting	<ul style="list-style-type: none"> • Issuers should make, and keep, readily available up to date information on the use of proceeds to be renewed annually until full allocation, and on a timely basis in case of material developments. • The annual report should include a list of the projects to which Green Bond proceeds have been allocated, as well as a brief description of the projects, the amounts allocated, and their expected impact. • Where confidentiality agreements, competitive considerations, or a large number of underlying projects limit the amount of detail that can be made available, the GBP recommend that information is presented in generic terms or on an aggregated portfolio basis (e.g. percentage allocated to certain project categories). 	<p>TPIPP will publish an Allocation Report and an Impact Report annually on its website within one year of issuing GFIs and until full allocation, including updates for material changes. The Allocation Report details outstanding instruments, eligible project types, sectors, locations, descriptions, category splits, allocated vs. total proceeds, financing & refinancing shares, and unallocated balances. The Impact Report covers environmental outcomes per the Impact Indicators table in the Framework’s Appendix, aligning, where feasible, with the “Handbook – Harmonised Framework for Impact Reporting (June 2024)” portfolio approach.</p> <p>DNV confirms that the proposed reporting is consistent with the criteria set out in the Principles & Standards.</p>

Schedule 4. DNSH Assessment

According to the Thailand Taxonomy, when one activity substantially contributes to one environmental objective, it must fulfill Do No Significant Harm (DNSH) requirements against the other 5 EOs. Based on the materiality of each activity and the information available, the following DNSH Assessment was conducted via documents available to DNV in July 2025.

A DNSH Assessment can only be conducted for activities that are currently operational or will soon be operational. DNSH Assessments cannot be performed for future activities due to the absence of supporting evidence, such as an Environmental Impact Assessment (EIA) report or a lifecycle emissions calculation report.

Table 1: Summary of Alignment of Framework with Thailand Taxonomy or ASEAN Taxonomy

Eligible Project Categories	EO1 Climate Change Mitigation	EO2 Climate Change Adaptation	EO3 Sustainable Use and Protection of Marine and Water Resources	EO4 Resource Resilience and the Transition to a Circular Economy	EO5 Pollution Prevention and Control	EO6 Protection and Restoration of Biodiversity and Ecosystem
1. Energy – Solar	Green TSC	Generic DNSH (See 4.1.2)	Generic DNSH (See 4.1.3)	Generic DNSH + Specific (See 4.1.4)	Generic DNSH (See 4.1.5)	Generic DNSH (See 4.1.6)
2. Energy - Storage of electricity and thermal energy	Green TSC	Generic DNSH (See 4.1.2)	Generic DNSH (See 4.1.3)	Generic DNSH + Specific (See 4.1.4)	Generic DNSH (See 4.1.5)	Generic DNSH (See 4.1.6)
3. Energy - Transmission and distribution of electricity	Green TSC	Generic DNSH (See 4.1.2)	N/A	Generic DNSH + Specific (See 4.1.4)	Generic DNSH (See 4.1.5)	Generic DNSH (See 4.1.6)
4. Transport - Freight transport by road	Green TSC	Generic DNSH (See 4.1.2)	Generic DNSH (See 4.1.3)	Generic DNSH + Specific (See 4.1.4)	Generic DNSH + Specific (See 4.1.5)	Generic DNSH (See 4.1.6)
5. Transport - Enabling infrastructure for low emission transport	Green TSC	Generic DNSH (See 4.1.2)	Generic DNSH (See 4.1.3)	Generic DNSH + Specific (See 4.1.4)	Generic DNSH (See 4.1.5)	Generic DNSH (See 4.1.6)
6. Waste Management – Collection and Transport of Municipal Solid Waste (EO4)	Generic DNSH + Specific (See 4.1.1)	Generic DNSH (See 4.1.2)	Generic DNSH (See 4.1.3)	Green TSC	Generic DNSH + Specific (See 4.1.5)	Generic DNSH (See 4.1.6)
7. Waste Management – Collection and Transport of Industrial Waste (EO4)	Generic DNSH + Specific (See 4.1.1)	Generic DNSH (See 4.1.2)	Generic DNSH (See 4.1.3)	Green TSC	Generic DNSH + Specific (See 4.1.5)	Generic DNSH (See 4.1.6)

8.Waste Management – Waste-to-Energy	Green TSC	Generic DNSH (See 4.1.2)	Generic DNSH (See 4.1.3)	Generic DNSH + Specific (See 4.1.4)	Generic DNSH + Specific (See 4.1.5)	Generic DNSH (See 4.1.6)
9.Energy Electricity Production from waste heat	Green under ASEAN Taxonomy Foundation Framework	Generic DNSH (See 4.1.2)	Generic DNSH (See 4.1.3)	Generic DNSH (See 4.1.4)	Generic DNSH + Specific (See 4.1.5)	Generic DNSH (See 4.1.6)

4.1 EO1: Climate Change Mitigation DNSH

DNV has conducted EO1 DNSH assessment based on the documents made available to DNV in July 2025 which includes:

- [TIIPP 2024 Sustainability Report](#)

This DNSH principle applies to the **collection and transportation of waste**. Emissions from waste collection and transportation are classified as either Scope 1 emissions (for TIIPP’s own fleet) or Scope 3 emissions, Category 4: Upstream Transport and Distribution. According to TIIPP’s 2024 Sustainability Report, Scope 1 emissions in 2022 exceeded 2.4 million metric tons of CO2 equivalent (MtCO2e), while emissions in 2023 and 2024 were reduced to below 2.0 MtCO2e, representing a reduction of more than 20%. Additionally, Scope 3 Category 4 emissions decreased by more than 50%, from 120,081.05 metric tons of CO2 equivalent (tCO2e) in 2022 to less than 60,000 tCO2e in both 2023 and 2024.

Based on the consistent reduction in Scope 1 and Scope 3 Category 4 emissions, DNV concludes that the collection and transportation of waste do not have the potential to cause significant harm to EO1 Climate Change Mitigation objectives.

การปล่อยก๊าซเรือนกระจก	ปี 2565	ปี 2566*	ปี 2567**
การปล่อยก๊าซเรือนกระจกทางตรง (ขอบเขต 1)	2,477,534.70	1,718,995.06	1,918,730.76
การปล่อยก๊าซเรือนกระจกทางอ้อมจากพลังงาน (ขอบเขต 2)	588.79	12,365.10	11,980.61
Total GHG emissions (Scope 1 + 2)	2,478,123.49	1,731,360.16	1,930,711.37
การปล่อยก๊าซเรือนกระจกทางอ้อมอื่น ๆ (ขอบเขต 3) ประกอบด้วย:	120,150.63	127,487.14	137,359.79
Category 1: Purchased goods and services	2.75	823.78	812.84
Category 2: Capital goods	N/A	N/A	N/A
Category 3: Fuel- and energy-related activities (not included in Scopes 1 or 2)	66.83	72,440.87	79,685.98
Category 4: Upstream transport and distribution	120,081.05	53,939.58	56,670.13
Category 5: Waste generated	N/A	N/A	N/A
Category 6: Business travel	N/A	N/A	N/A
Category 7: Employee commuting	N/A	N/A	N/A
Category 8: Upstream leased assets	N/A	N/A	N/A
Category 9: Downstream transport and distribution	N/A	282.91	190.84
Category 10: Processing of sold products	N/A	N/A	N/A
Category 11: Use of sold products	N/A	N/A	N/A
Category 12: End-of-life treatment of sold products	N/A	N/A	N/A
Category 13: Downstream leased assets	N/A	N/A	N/A
Category 14: Franchises	N/A	N/A	N/A
Category 15: Investments	N/A	N/A	N/A
Total GHG emissions (Scope 1 + 2+3)	2,598,274.12	1,858,847.29	2,068,071.16
ปริมาณก๊าซเรือนกระจกต่อหน่วยผลผลิต (TonCO ₂ e/MWh)	1.2646	0.8299	0.8445

หมายเหตุ : * ทวนสอบโดย บริษัท บีเอสไอ กรุ๊ป (ประเทศไทย) จำกัด ("BSI") ตามมาตรฐาน ISO14064-1 : 2018 and CFO-TGO
 ** บริษัทอยู่ในระหว่างการทวนสอบคาร์บอนฟุตพริ้นท์ขององค์กรสำหรับปี 2567 จากสถาบันรับรองมาตรฐานไอเอสโอ (MASC) และคาดว่าจะดำเนินการแล้วเสร็จภายในเดือน มิถุนายน 2568

Figure 5 TPIPP’s GHG emissions (TPIPP 2024 Sustainability Report page 81 and 82)

4.2 EO2: Climate Change Adaptation DNSH

DNV has conducted EO2 DNSH assessment based on the documents made available to DNV in July 2025, including:

- [TPI 2023 TCFD Report](#)
- [TPI 2024 TCFD Report](#)

In 2013 TPIPP started a systematic analysis of climate change-related risks and opportunities according to TCFD recommendations. During the analysis, TPIPP selected two specific risk scenarios (transitional and physical), to identify risks/opportunities and develop risk mitigation approaches. The aim of the analysis is to identify the potential vulnerabilities to extreme natural events to its business assets, assessing the impact and develop mitigation actions aimed at improving the asset resilience and the recourse to insurance market for the residual risk.

TPIPP performs this analysis based on 3 time-horizons, consistent with investment lifespan: short term (4-10 years), medium term (5-10 years up to 2030) and long term (more than 10 years up to 2050). TPIPP has performed an analysis of climate change physical risk exposure based on the relevant Representative Concentration Pathways (RCP) 2.6 and RCP 8.5 scenarios to provide time-dependent projections of atmospheric greenhouse gas concentrations.

TIIPP’s operations are exposed to physical climate risks such as extreme weather (e.g., floods, storms), rising temperatures, and sea level rise, which could impact operational efficiency, asset integrity, and supply chains. These risks are particularly relevant in Thailand’s climate, characterized by monsoons and heatwaves.

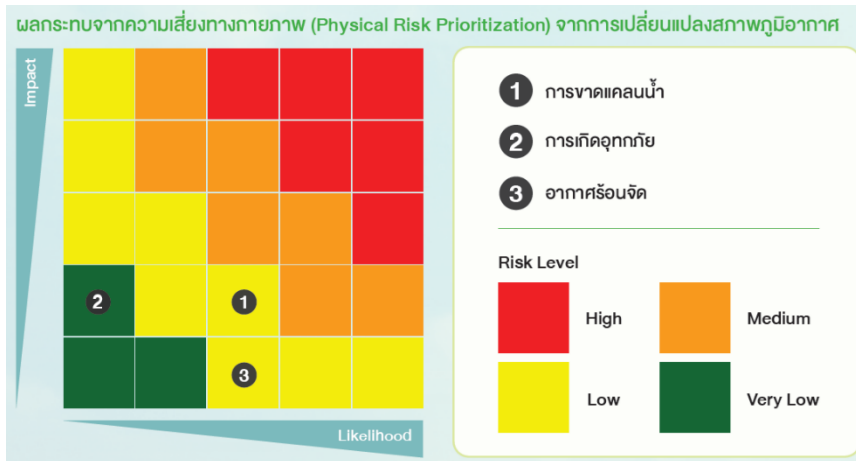


Figure 6 TIIPP’s Physical Risk identification (TIIPP 2024 TCFD Report page 18)

TIIPP implements tailored adaptation measures, such as enhancing water use efficiency for WtE power plants, climate-resilient infrastructure designs, weather-resilient logistics, robust supply chain strategies, flood-proofing to mitigate risks from flooding, and operational adjustments to mitigate the risks from extreme heat. TIIPP’s adaptation plans are designed to avoid adverse impacts on the resilience of other people, nature, assets, or economic activities, aligning with local, sectoral, regional, or national adaptation efforts. Examples include weather-resilient logistics, heat-resistant technologies, and robust supply chain strategies to address climate-driven disruptions, ensuring operational continuity and environmental compliance.

TIIPP integrates climate risk assessments into its broader climate change strategy supported by a robust governance framework to ensure systematic implementation and monitoring of risk assessments and adaptation plans, with regular reviews and stakeholder engagement. TIIPP confirms that adaptation plans are/will be implemented for all projects financed under the Framework.

DNV concludes that the activities under the Framework do not have the potential to cause significant harm to EO2 Climate Change Adaptation objectives.

4.3 EO3: Sustainable Use and Protection of Marine and Water Resources DNSH

DNV has conducted EO3 DNSH assessment based on the documents made available to DNV in July 2025 which includes:

- TPI 2024 TCFD Report
- [TIIPP 2024 Sustainability Report](#)
- [TG8 EIA Report](#)
- TG8 Monitoring Report

4.4 EO4: Promotion of resource resilience and transition to a circular economy

DNV has conducted EO4 DNSH assessment based on the documents made available to DNV in July 2025 which includes:

- [TG1,2,3 EIA Report](#)
- [TG4 EIA Report](#)
- [TG5 EIA Report](#)
- [TG6 EIA Report](#)
- [TG7 EIA Report](#)
- [TG8 EIA Report](#)
- COP Monitoring Report for Solar Farm 61.226 MW
- COP Monitoring Report for Solar Rooftop 6 MW

Energy DNSH

As per the interview and COP Monitoring Reports, TPIPP confirms that the solar energy installations and associated components are of high efficiency and high durability. When end-of-life equipment such as batteries can no longer be recycled or reused, they will be treated by competent waste processors according to the national regulations.

Transportation DNSH

As per the interview, TPIPP confirms that the low carbon transport and low carbon transport infrastructure projects are of high efficiency and high durability. When end-of-life equipment such as batteries can no longer be recycled or reused, they will be treated by competent waste processors according to the national regulations.

Waste-Management DNSH

As per the interview and EIA Reports, TPIPP confirms that the WtE, Waste Heat Power Plant, and combined waste heat and RDF power plants are of high efficiency and high durability. The result of the interview and RDF plant flow chart confirm that separated waste fractions are not mixed in storage or transfer facilities

4.5 EO5: Pollution prevention and control DNSH

DNV has conducted EO5 DNSH assessment based on the documents made available to DNV in July 2025 which includes:

- [TG1,2,3 EIA Report](#)
- [TG4 EIA Report](#)
- [TG5 EIA Report](#)
- [TG6 EIA Report](#)
- [TG7 EIA Report](#)
- [TG8 EIA Report](#)
- TG8 Monitoring Report
- COP Monitoring Report for Solar Farm 61.226 MW
- COP Monitoring Report for Solar Rooftop 6 MW

- [Assessment of the Impact of Coal and Waste Power Plants on Dairy Farming and Organic Agriculture in Mueang Lek District, Saraburi Province by Assist. Prof. Dr. Tanapon Phenrat, Naresuan Univesity, published by EnLaw and Greenpeace](#)

Energy DNSH

As per the interview and COP Monitoring Reports, solar energy construction and operation activities listed in the Framework are not emitting dangerous substances, noise, light or heat more than national regulations. Management plans for every pollutant causing significant harm have been developed. COP Monitoring Report has clearly indicated preventive and mitigation measures for environmental pollution during pre-construction phase (chapter 2.4), during construction phase (chapter 3.1-3.6), during implementation phase (chapter 4.1 and 4.2), and during demolition phase.

Low Carbon Transport DNSH

As per the interview, TPIPP confirms that the low carbon transport and low carbon transport infrastructure projects comply with regulations on the sound level of motor vehicles, air emissions and ambient air quality. The fleets under TPIPP's operation are maintained by each plant and the fleets under operation of suppliers are maintained by the supplier and are monitored during annual ESG audits.

Waste Collection and Transport DNSH

TPIPP conducts an annual on-site ESG audit to verify that its subcontracted waste collectors and transporters maintain an effective environmental management system, ensuring compliance with national regulations. The audit monitors water usage, waste management, and pollution discharges from suppliers' fleets. TPIPP's own fleet is regularly maintained and monitored at its facilities. In an interview conducted on 9 July 2025, TPIPP confirmed that all vehicles within its operations undergo regular maintenance and comply with national noise and air quality standards.

Waste-to-Energy, and Combined Waste Heat and RDF Power Plants DNSH

DNV's review of the TG8 Environmental Impact Assessment (EIA) Report indicates potential negative impacts on ambient air quality. EIA Report page 5-135 indicates that there is potential harm to air quality.

"1) Impacts from the Emission of Primary Pollutants

When comparing the study results for the stack of a 150 MW thermal power plant under three scenarios— 1) 100% coal, 2) 25% coal combined with 75% Refuse-Derived Fuel (RDF), and 3) 100% RDF—it was found that using 100% RDF results in the lowest concentrations of primary pollutants emitted from the stack of the 150 MW thermal power plant. All pollutant concentrations in all three scenarios are within regulatory standards. Additionally, in areas with sensitive receptors, the pollutant concentrations are also within regulatory standards.

When considering the stack of the 150 MW thermal power plant in combination with other stacks in the area under the same three scenarios—1) 100% coal, 2) 25% coal combined with 75% RDF, and 3) 100% RDF—it was found that the 1-hour average concentrations of sulfur dioxide (SO₂) and nitrogen dioxide (NO₂) exceed regulatory standards. The areas with pollutant concentrations exceeding standards are a mountainous area approximately 1,400 meters south of the project site and a mining area approximately 2,200 meters northeast of the project site. However, in areas with sensitive receptors, the pollutant concentrations remain within regulatory standards.

2) Impacts from the Emission of Other Pollutants

From the study considering only the stack of the 150 MW thermal power plant under the three scenarios— 1) 100% coal, 2) 25% coal combined with 75% RDF, and 3) 100% RDF—it was found that the annual average concentration of cadmium exceeds international guideline values (Thailand has no established standard for this pollutant). The area with cadmium concentrations exceeding the guideline is a mountainous area approximately 4,000 meters northwest of the project site. However, in areas with sensitive receptors, the pollutant concentrations are within guideline values. The concentrations of other pollutants are all within regulatory standards.

When considering the stack of the 150 MW thermal power plant in combination with other stacks in the area under the three scenarios—1) 100% coal, 2) 25% coal combined with 75% RDF, and 3) 100% RDF—it was found that the annual average concentration of cadmium and the 24-hour concentration of dioxins exceed international guideline values (Thailand has no established standards for these pollutants). The areas with pollutant concentrations exceeding the guidelines are a mountainous area approximately 3,500 meters northwest of the project site and a mining area approximately 3,400 meters northeast of the project site. However, in areas with sensitive receptors, the pollutant concentrations remain within guideline values. The concentrations of other pollutants are all within regulatory standards.”

Following discussions with TPIPP and as per indicated in TG8’s EIA report, TPIPP confirms that transitioning TG8 from coal to 100% RDF is expected to reduce air emissions, particularly SO₂ and NO₂. A model shows that 24-hour concentration of dioxin from TG8 alone is maximum 0.0405 picogram/m³ but when all the TPIPP’s WtE plants operate, the maximum 24-hour concentration of dioxin can reach 0.276 picogram; m³ which is above Ontario’s ambient air quality criteria.

ตารางที่ 5.2.4-34: ค่าความเข้มข้นของสารไดออกซินจากผลการประเมินผลกระทบต่อด้านคุณภาพอากาศด้วยแบบจำลองคณิตศาสตร์

ดัชนี	ค่าความเข้มข้นของมลสาร (พิโคกรัม / ลูกบาศก์เมตร)					
	การพิจารณาเฉพาะปล่องของโรงไฟฟ้าพลังความร้อน ขนาด 150 เมกะวัตต์			การพิจารณาปล่องของโรงไฟฟ้าพลังความร้อน ขนาด 150 เมกะวัตต์ ร่วมกับปล่องอื่นๆ ในพื้นที่ทั้งหมด		
	เมื่อใช้ถ่านหิน 100%	เมื่อใช้ถ่านหิน 25% ร่วมกับ RDF 75%	เมื่อใช้ RDF 100%	เมื่อใช้ถ่านหิน 100%	เมื่อใช้ถ่านหิน 25% ร่วมกับ RDF 75%	เมื่อใช้ RDF 100%
	24 ชั่วโมง	24 ชั่วโมง	24 ชั่วโมง	24 ชั่วโมง	24 ชั่วโมง	24 ชั่วโมง
ค่าความเข้มข้นสูงสุด	0.0405	0.0405	0.0405	0.276	0.276	0.276
พิกัด	725000E, 1621500N	725000E, 1621500N	725000E, 1621500N	731000E, 1621500N	731000E, 1621500N	731000E, 1621500N
บริเวณ	พื้นที่ภูเขาระหว่างพื้นที่โครงการไปทางทิศตะวันตกเฉียงเหนือ ประมาณ 4,000 เมตร	พื้นที่ภูเขาระหว่างพื้นที่โครงการไปทางทิศตะวันตกเฉียงเหนือ ประมาณ 4,000 เมตร	พื้นที่ภูเขาระหว่างพื้นที่โครงการไปทางทิศตะวันตกเฉียงเหนือ ประมาณ 4,000 เมตร	พื้นที่เหมืองห่างจากพื้นที่โครงการไปทางทิศตะวันออกเฉียงเหนือ ประมาณ 3,400 เมตร	พื้นที่เหมืองห่างจากพื้นที่โครงการไปทางทิศตะวันออกเฉียงเหนือ ประมาณ 3,400 เมตร	พื้นที่เหมืองห่างจากพื้นที่โครงการไปทางทิศตะวันออกเฉียงเหนือ ประมาณ 3,400 เมตร
ตำแหน่งผู้รับที่อ่อนไหว						
หมู่ 3 บ้านไทย	0.0006	0.0006	0.0006	0.008	0.008	0.008
หมู่ 5 บ้านซับบอน	0.0019	0.0019	0.0019	0.022	0.022	0.022
หมู่ 9 บ้านไร่	0.0007	0.0007	0.0007	0.010	0.010	0.010
หมู่ 10 บ้านอ้าน้ำพุ	0.0004	0.0004	0.0004	0.005	0.005	0.005
หมู่ 5 บ้านหินลับ	0.0010	0.0010	0.0010	0.014	0.014	0.014
หมู่ 6 บ้านซับประอู	0.0009	0.0009	0.0009	0.012	0.012	0.012
หมู่ 12 บ้านเขาไม้เกวียน	0.0007	0.0007	0.0007	0.012	0.012	0.012
หมู่ 13 บ้านท่าเสา	0.0007	0.0007	0.0007	0.010	0.010	0.010
หมู่ 4 บ้านซับพริก	0.0006	0.0006	0.0006	0.010	0.010	0.010
หมู่ 5 บ้านเขามะกอก	0.0010	0.0010	0.0010	0.012	0.012	0.012
หมู่ 6 บ้านอ่างหิน	0.0008	0.0008	0.0008	0.014	0.014	0.014
หมู่ 7 บ้านโหลระจาม	0.0030	0.0030	0.0030	0.014	0.014	0.014
หมู่ 10 บ้านอมศรี	0.0004	0.0004	0.0004	0.007	0.007	0.007

Figure 8 24-hour dioxin concentration from the impact assessment using mathematical modeling (TG8 EIA report page 5-133)

ตารางที่ 5.2.4-19: ค่าความเข้มข้นของสารเคมีจากผลการประเมินผลกระทบด้านคุณภาพอากาศด้วยแบบจำลองคณิตศาสตร์

ดัชนี	ค่าความเข้มข้นของมลสาร (นาโนกรัม / ลูกบาศก์เมตร)																	
	การพิจารณาเฉพาะปล่อยของโรงไฟฟ้าพลังงานความร้อน ขนาด 150 เมกะวัตต์									การพิจารณาปล่อยของโรงไฟฟ้าพลังงานความร้อน ขนาด 150 เมกะวัตต์ ร่วมกับปล่อยอื่นๆ ในพื้นที่ทั้งหมด								
	เมื่อใช้เกณฑ์ 100%			เมื่อใช้เกณฑ์ 25% ร่วมกับ RDF 75%			เมื่อใช้ RDF 100%			เมื่อใช้เกณฑ์ 100%			เมื่อใช้เกณฑ์ 25% ร่วมกับ RDF 75%			เมื่อใช้ RDF 100%		
1 ชั่วโมง	24 ชั่วโมง	1 ปี	1 ชั่วโมง	24 ชั่วโมง	1 ปี	1 ชั่วโมง	24 ชั่วโมง	1 ปี	1 ชั่วโมง	24 ชั่วโมง	1 ปี	1 ชั่วโมง	24 ชั่วโมง	1 ปี	1 ชั่วโมง	24 ชั่วโมง	1 ปี	
ค่าความเข้มข้นสูงสุด	19.87	4.04	0.82	19.87	4.04	0.82	19.87	4.04	0.82	8.77	17.85	3.25	8.77	17.85	3.25	8.77	17.85	3.25
พิกัด	729968E, 1621438N	725000E, 1621500N	725000E, 1621500N	729968E, 1621438N	725000E, 1621500N	725000E, 1621500N	729968E, 1621438N	725000E, 1621500N	725000E, 1621500N	730718E, 1621188N	729718E, 1621438N	725468E, 1621438N	730718E, 1621188N	729718E, 1621438N	725468E, 1621438N	730718E, 1621188N	729718E, 1621438N	725468E, 1621438N
บริเวณ	พื้นที่อยู่อาศัย ห่างจาก โครงการไป ทางทิศ ตะวันตก เฉียงเหนือ ประมาณ 2,700 เมตร	พื้นที่อยู่อาศัย ห่างจาก พื้นที่ โครงการไป ทางทิศ ตะวันตก เฉียงเหนือ ประมาณ 4,000 เมตร	พื้นที่อยู่อาศัย ห่างจาก พื้นที่ โครงการไป ทางทิศ ตะวันตก เฉียงเหนือ ประมาณ 4,000 เมตร	พื้นที่อยู่อาศัย ห่างจาก พื้นที่ โครงการไป ทางทิศ ตะวันตก เฉียงเหนือ ประมาณ 4,000 เมตร	พื้นที่อยู่อาศัย ห่างจาก พื้นที่ โครงการไป ทางทิศ ตะวันตก เฉียงเหนือ ประมาณ 4,000 เมตร	พื้นที่อยู่อาศัย ห่างจาก พื้นที่ โครงการไป ทางทิศ ตะวันตก เฉียงเหนือ ประมาณ 2,700 เมตร	พื้นที่อยู่อาศัย ห่างจาก พื้นที่ โครงการไป ทางทิศ ตะวันตก เฉียงเหนือ ประมาณ 4,000 เมตร	พื้นที่อยู่อาศัย ห่างจาก พื้นที่ โครงการไป ทางทิศ ตะวันตก เฉียงเหนือ ประมาณ 4,000 เมตร	พื้นที่อยู่อาศัย ห่างจาก พื้นที่ โครงการไป ทางทิศ ตะวันตก เฉียงเหนือ ประมาณ 3,000 เมตร	พื้นที่อยู่อาศัย ห่างจาก พื้นที่ โครงการไป ทางทิศ ตะวันตก เฉียงเหนือ ประมาณ 3,000 เมตร	พื้นที่อยู่อาศัย ห่างจาก พื้นที่ โครงการไป ทางทิศ ตะวันตก เฉียงเหนือ ประมาณ 2,500 เมตร	พื้นที่อยู่อาศัย ห่างจาก พื้นที่ โครงการไป ทางทิศ ตะวันตก เฉียงเหนือ ประมาณ 3,000 เมตร	พื้นที่อยู่อาศัย ห่างจาก พื้นที่ โครงการไป ทางทิศ ตะวันตก เฉียงเหนือ ประมาณ 3,500 เมตร	พื้นที่อยู่อาศัย ห่างจาก พื้นที่ โครงการไป ทางทิศ ตะวันตก เฉียงเหนือ ประมาณ 3,000 เมตร	พื้นที่อยู่อาศัย ห่างจาก พื้นที่ โครงการไป ทางทิศ ตะวันตก เฉียงเหนือ ประมาณ 3,500 เมตร	พื้นที่อยู่อาศัย ห่างจาก พื้นที่ โครงการไป ทางทิศ ตะวันตก เฉียงเหนือ ประมาณ 3,500 เมตร	พื้นที่อยู่อาศัย ห่างจาก พื้นที่ โครงการไป ทางทิศ ตะวันตก เฉียงเหนือ ประมาณ 3,500 เมตร	
ค่าเฉลี่ยรายปีที่ยอมรับ																		
หมู่ 3 บ้านใหม่	0.51	0.06	0.00	0.51	0.06	0.00	0.51	0.06	0.00	5.25	0.56	0.02	5.25	0.56	0.02	5.25	0.56	0.02
หมู่ 5 บ้านคิงคอน	0.77	0.19	0.01	0.77	0.19	0.01	0.77	0.19	0.01	7.89	2.97	0.22	7.89	2.97	0.22	7.89	2.97	0.22
หมู่ 9 บ้านไร่	0.66	0.07	0.00	0.66	0.07	0.00	0.66	0.07	0.00	5.82	0.66	0.04	5.82	0.66	0.04	5.82	0.66	0.04
หมู่ 10 บ้านสามโพธิ์	0.26	0.03	0.00	0.26	0.03	0.00	0.26	0.03	0.00	2.54	0.34	0.02	2.54	0.34	0.02	2.54	0.34	0.02
หมู่ 5 บ้านคันทิพย์	0.85	0.10	0.01	0.85	0.10	0.01	0.85	0.10	0.01	9.00	1.28	0.15	9.00	1.28	0.15	9.00	1.28	0.15
หมู่ 6 บ้านคันทิพย์	0.71	0.09	0.00	0.71	0.09	0.00	0.71	0.09	0.00	6.37	0.84	0.06	6.37	0.84	0.06	6.37	0.84	0.06
หมู่ 12 บ้านจันทิพย์	0.72	0.07	0.00	0.72	0.07	0.00	0.72	0.07	0.00	6.48	0.78	0.08	6.48	0.78	0.08	6.48	0.78	0.08
หมู่ 13 บ้านท่าเสา	0.63	0.06	0.00	0.63	0.06	0.00	0.63	0.06	0.00	5.42	0.74	0.06	5.42	0.74	0.06	5.42	0.74	0.06
หมู่ 4 บ้านคันทิพย์	0.43	0.06	0.00	0.43	0.06	0.00	0.43	0.06	0.00	6.99	0.79	0.08	6.99	0.79	0.08	6.99	0.79	0.08
หมู่ 5 บ้านสามชุก	0.60	0.10	0.01	0.60	0.10	0.01	0.60	0.10	0.01	6.47	1.15	0.13	6.47	1.15	0.13	6.47	1.15	0.13

Figure 9 1-hour, 24-hour and 1-year Cadmium concentration from the impact assessment using mathematical modeling (TGS EIA report page 5-81)

TIIPP has submitted July-December 2024 Monitoring Report of TG8. From page 1-29, DNV notices that TIIPP monitors TSP, PM10, NO₂, SO₂, HCl, Hg, Cd, Pb and dioxin at stack. For ambient air, TIIPP monitors TSP, PM10, NO₂, SO₂, HCl, Hg, Cd, and Pb. **Monitoring of dioxin at ambient air is not being conducted.**

ตารางที่ 1-2 แผนการติดตามตรวจสอบผลกระทบสิ่งแวดล้อม

โครงการโรงไฟฟ้าพลังความร้อน ขนาด 150 เมกะวัตต์ (ระยะดำเนินการ) ของบริษัท ทีพีโอ โพลีน เยาว์ จำกัด (มหาชน)

องค์ประกอบด้านสิ่งแวดล้อม	สถานีติดตามตรวจสอบ	ดัชนีที่ใช้ติดตามตรวจสอบ	ความถี่
1. ด้านคุณภาพอากาศ			
1.1 ตรวจสอบคุณภาพอากาศในบรรยากาศ	จำนวน 8 สถานี ประกอบด้วย 1. โรงเรียนบ้านชัยบอน 2. วัดหินลับ (บ้านหินลับ หมู่ 5) 3. วัดชัยบอน (บ้านชัยบอน หมู่ 5) 4. บ้านอ่างหิน หมู่ 6 5. พื้นที่ท่าเหมือง A ของบริษัท ทีพีโอ โพลีน จำกัด (มหาชน) 6. บ้านโพธิ์งาม หมู่ 7 ^ข 7. โรงเรียนวทวนศึกษา ^ข 8. องค์การบริหารส่วนตำบลนิคมพัฒนา ^ข	1. ก๊าซไฮโดรเจนคลอไรด์ (HCl) เฉลี่ย 24 ชั่วโมง 2. โลหะหนัก (Hg, Cd, Pb) เฉลี่ย 24 ชั่วโมง 3. ความเร็วลมและทิศทางลม	ปีละ 2 ครั้ง ช่วงเดียวกับการตรวจวัดคุณภาพอากาศ ในบรรยากาศ 7 วันต่อเนื่อง (ครอบคลุมทั้งในช่วงวันทำการและวันหยุด) ครั้งที่ 1 ก.พ.-พ.ค. ครั้งที่ 2 ส.ค.-พ.ย.
1.2 ตรวจสอบคุณภาพอากาศในบรรยากาศแบบถาวร (AQMS)	จำนวน 5 สถานี ประกอบด้วย 1. โรงเรียนบ้านชัยบอน 2. วัดหินลับ (บ้านหินลับ หมู่ 5) 3. วัดชัยบอน (บ้านชัยบอน หมู่ 5) 4. บ้านอ่างหิน หมู่ 6 5. บ้านโพธิ์งาม หมู่ 7	1. ฝุ่นละอองรวม (TSP) เฉลี่ย 24 ชั่วโมง 2. ฝุ่นละอองขนาดเล็กไม่เกิน 10 ไมครอน (PM ₁₀) เฉลี่ย 24 ชั่วโมง 3. ก๊าซไนโตรเจนไดออกไซด์ (NO ₂) เฉลี่ย 1 ชั่วโมง 4. ก๊าซซัลเฟอร์ไดออกไซด์ (SO ₂) เฉลี่ย 1 ชั่วโมง และ 24 ชั่วโมง 5. ความเร็วลมและทิศทางลม	ตรวจทุกวันต่อเนื่อง
1.3 ตรวจสอบคุณภาพอากาศจากปล่องระบายของ CFBC Boiler	- CFBC Boiler Stack โรงไฟฟ้า 150 MW	1. ฝุ่นละอองรวม (TSP) 2. ฝุ่นละอองขนาดเล็กไม่เกิน 10 ไมครอน (PM ₁₀) 3. ก๊าซออกไซด์ของไนโตรเจน (NO _x) 4. ก๊าซซัลเฟอร์ไดออกไซด์ (SO ₂) 5. ก๊าซไฮโดรเจนคลอไรด์ (HCl) 6. โลหะหนัก (Hg, Cd, Pb) 7. ไดออกซิน (Dioxin)	ปีละ 2 ครั้ง ช่วงเดียวกับการตรวจวัดคุณภาพอากาศ ในบรรยากาศ 7 วันต่อเนื่อง ครั้งที่ 1 ก.พ.-พ.ค. ครั้งที่ 2 ส.ค.-พ.ย.

Figure 10 Air quality monitoring plan of TG8 (Monitoring Report page 1-29)

Disputes pertaining to Waste-to-Energy, and Combined Waste Heat and RDF Power Plants DNSH

According to the Assessment of the Impact of Coal and Waste Power Plants on Dairy Farming and Organic Agriculture in Mueang Lek District, Saraburi Province by Assist. Prof. Dr. Tanapon Phenrat, Naresuan University, published by EnLaw and Greenpeace, it has been claimed that TIIPP's EIA study used incorrect

references, which may thereby negatively impact the credibility of the information referenced, and that study size area is not large enough to cover areas that would be potentially affected. The research also indicates very low participation rate of the communities which is less than 2%.

"The local community, as direct stakeholders affected by the project, has lacked sufficient awareness about the public consultation forums for the project. For instance, the three public consultation sessions (C.1, C.2, and C.3) under the EHIA report process, conducted from November 2014 to August 2016, included a study of impacts within a 5-kilometer radius of the 150 MW power plant, covering 2 districts, 4 sub-districts, and 14 villages. It was found that participation in these consultation sessions was extremely low. Specifically, out of a total population of 14,286, only 263 people attended the first session (1.84%), 1,151 attended the second session (8.06%), and 184 attended the third session (1.29%)."

ตารางที่ 4-1: เวทีรับฟังความคิดเห็นทั้ง 3 ครั้งตามกระบวนการจัดทำรายงาน EHIA ก่อนที่คณะกรรมการผู้ชำนาญการพิจารณารายงานการวิเคราะห์ผลกระทบสิ่งแวดล้อม ด้านโรงไฟฟ้าพลังความร้อน จะมิตให้ความเห็นชอบ เมื่อวันที่ 28 กันยายน 2560¹¹

ขั้นตอน ค ตามเอกสารท้ายประกาศ กระทรวงทรัพยากรธรรมชาติและสิ่งแวดล้อมฯ เมื่อวันที่ 29 ธันวาคม 2552	วันที่ดำเนินการ	จำนวนผู้เข้าร่วมประชุม
ค.1 การฟังความคิดเห็น เพื่อกำหนดขอบเขตและแนวทางการประเมินผลกระทบสิ่งแวดล้อมและสุขภาพ (Public Scoping) ดำเนินการโดยการจัดประชุมรับฟังความคิดเห็นฯ จำนวน 1 ครั้ง ณ ห้องจามจุรี โรงแรมมวกเหล็ก พาราไดส์ รีสอร์ท เลขที่ 42/2 หมู่ 2 ต.มวกเหล็ก อ.มวกเหล็ก จ.สระบุรี	19 พฤศจิกายน 2557	263 คน
ค.2 การฟังความคิดเห็น ในขั้นตอนการประเมินและจัดทำรายงานการวิเคราะห์ผลกระทบสิ่งแวดล้อม ดำเนินการโดยการ จัดประชุมกลุ่มย่อยระดับตัวแทนของกลุ่มบุคคลที่เกี่ยวข้องหรือมีส่วนได้เสียจำนวน 9 กลุ่มย่อย ครอบคลุม 1 เทศบาล 3 ตำบล ที่เกี่ยวข้อง - การจัดประชุมกลุ่มย่อย - การสัมภาษณ์รายบุคคลด้วยแบบสอบถาม	8-9 กุมภาพันธ์ 2558 10-14 กุมภาพันธ์ 2558	421คน 730 ตัวอย่าง
ค.3 การรับฟังความคิดเห็นเพื่อทบทวนร่างรายงานการวิเคราะห์ผลกระทบสิ่งแวดล้อมและสุขภาพ (Public Review) ดำเนินการโดยการจัดประชุมรับฟังความคิดเห็นฯ จำนวน 1 ครั้ง ณ ห้องลีลาวดี โรงแรมศุภาลัย ป่าสัก รีสอร์ท เลขที่ 79 หมู่ 1 ต.ท่าศาลา อ.แก่งคอย จ.สระบุรี	3 สิงหาคม 2559	184 คน

Figure 11: Public Consultation Sessions (C.1, C.2 and C.2) participation rate out of a total population 14,286

"In this study, the study area was defined as a model with a size of 50 kilometers x 50 kilometers, centered on the location of TPIPP's 150-megawatt power plant. This area is significantly larger than the 15 kilometers x 15 kilometers studied in the TPIPP's EHIA report. For input parameters, this study utilized data specific to the study area, including topography and land use, derived from satellite data and meteorological conditions, which are critical for modeling air pollution dispersion. The meteorological data were obtained from the WRF model, which integrates real-world data from global meteorological stations with mathematical modeling, providing area-specific data for Mueang Muak Lek District. This differs from the TPIPP's EIA report, which used meteorological data from the Phra Lan Meteorological Station in Saraburi Province, located approximately 28 kilometers west of TPI Polene's plant—a distance considered too far for accurate air pollution dispersion modeling. Additionally, wind direction and speed data from the Phra Lan station clearly differ from the dataset for the Mueang Muak Lek area"

DNV notes ongoing litigation regarding EO5 DNSH criteria, with details published in the TPIPP 2024 One Report. A summary of TG8's litigation is provided below:

On December 16, 2019, 222 residents filed a lawsuit against the Energy Regulatory Commission and others, including TPIPP as the fifth defendant, at the Central Administrative Court. The lawsuit sought to revoke the approval of the Environmental and Health Impact Assessment (EHIA) for a 150 MW coal-fired power plant in Saraburi (TG8), along with related licenses for electricity production, factory operations, and building construction. The plaintiffs also requested a temporary injunction to halt the plant's operations pending a final ruling. On December 25, 2019, the court held a hearing on the injunction, which was dismissed on January 28, 2020, citing no evidence of unlawful licensing. The case proceeded with TPIPP submitting defenses on July 1, 2020, and March 12, 2021. On August 29, 2024, the court's rapporteur deemed the EHIA approval and licenses lawful, recommending dismissal. On September 26, 2024, the Central Administrative Court dismissed the case. The plaintiffs appealed to the Supreme Administrative Court on October 16, 2024, and TPIPP was ordered to respond by February 19, 2025. TPI's legal counsel asserts compliance with regulations and denies the plaintiffs' claims, while TPIPP filed a counter-complaint against the plaintiffs for false allegations, currently under investigation.

Notwithstanding the litigation outcome, compliance with international Air Quality Guidelines is a prerequisite for meeting Thailand Taxonomy EO5 DNSH requirements. **For this reason, DNV recommends ongoing monitoring and reporting of air quality at affected locations.**

4.6 EO6: Protection and Restoration of Biodiversity and Ecosystems DNSH

DNV has conducted EO5 DNSH assessment based on the documents made available to DNV in July 2025 which includes:

- [TPIPP 2024 Sustainability Report](#)
- [TG1,2,3 EIA Report](#)
- [TG4 EIA Report](#)
- [TG5 EIA Report](#)
- [TG6 EIA Report](#)
- [TG7 EIA Report](#)
- [TG8 EIA Report](#)
- TG8 Monitoring Report
- [TPIPP's Biodiversity Strategies](#)
- COP Monitoring Report for Solar Farm 61.226 MW
- COP Monitoring Report for Solar Rooftop 6 MW
- research project on the study of health and environmental impacts of health-risk areas on vulnerable populations conducted in 2024 by Science Department, Suan Sunandha Rajabhat University

Solar Energy DNSH

The 61.226 MW Solar Power Farm Project in Kaeng Khoi District, operated by TPIPP, is situated on 26 land plots owned by TPI Polene Public Company Limited in Thap Kwang Subdistrict, Kaeng Khoi District, Saraburi Province, covering 663 rai, 0 ngan, and 78 square wah. TPI Polene has authorized TPIPP to use this land

for the solar project. The site complies with land use regulations, as confirmed by the Public Works Office. According to the Ministry of Natural Resources and Environment, the project location is not within a designated environmentally protected zone. Furthermore, per the Cabinet resolutions of March 10 and 17, 1992, which categorize forest land into Conservation (Zone C), Economic (Zone E), and Agricultural (Zone A) zones, the project site does not fall within any of these forest land classifications. Additionally, the site is not part of any internationally significant wetlands, as outlined in the Cabinet resolution of November 3, 2009, and verified by The Secretariat of the Convention on Wetlands (2015), which lists Thailand's 14 Ramsar sites. The project thus faces no environmental or land use restrictions based on these assessments.

For the 6 MW Solar Rooftop Project, TPIPP COP Monitoring reports confirm that the project site is not located in Class 1 or 2 watershed quality areas, wetlands designated by Cabinet resolutions, or Ramsar Sites. It is also not within additional conservation forest areas as per Cabinet resolutions, nor in environmentally protected zones as announced by the Ministry of Natural Resources and Environment. Within a 1 km radius, there are no wildlife sanctuaries, no-hunting zones, national parks, archaeological sites, historical sites under the law on ancient monuments, artifacts, art objects, and national museums, or raw water conservation areas for water supply as designated by the Cabinet.

Low Carbon Transport DNSH

As per the interview, TPIPP confirms that the low carbon transport and low carbon transport infrastructure projects are not located or operating in environmentally sensitive areas.

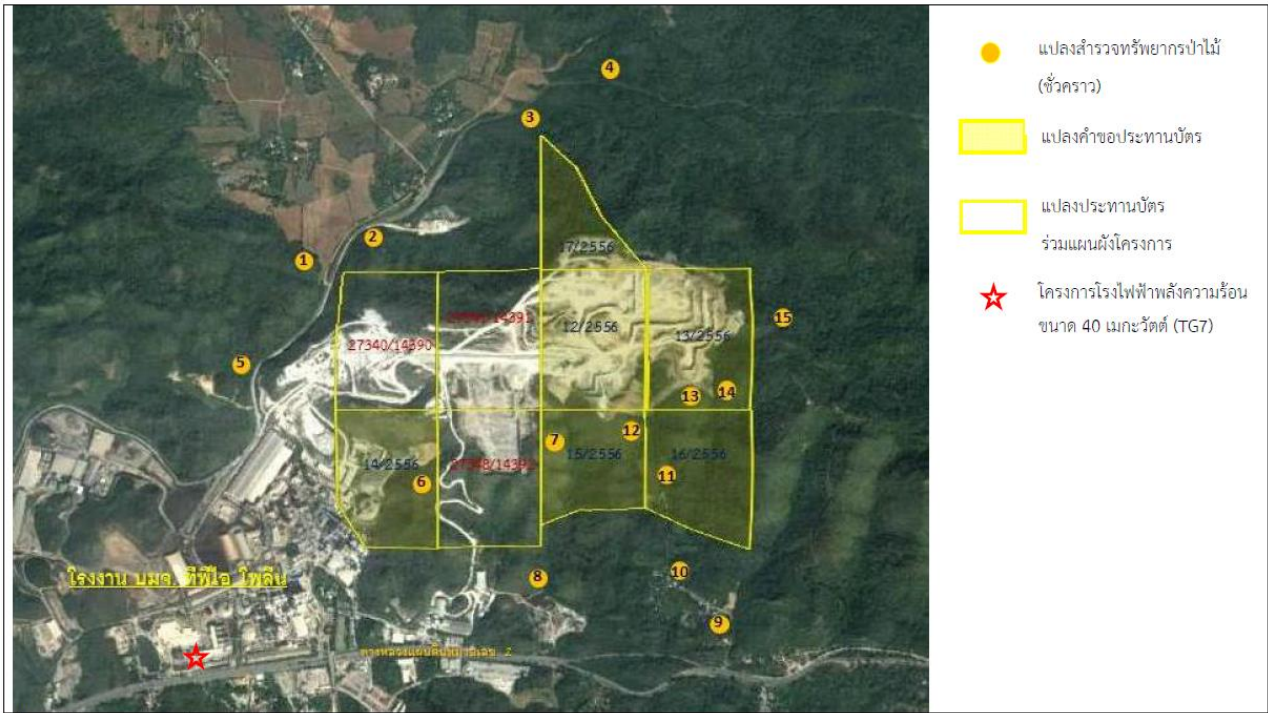
Waste Collection and Transport DNSH

As per the interview, TPIPP confirms that waste collection and transport projects are not located or operating in environmentally sensitive areas.

Waste-to-Energy, Waste Heat Power Plant and Combined Waste Heat and RDF Power Plants DNSH

A 2016 survey of forests near a limestone mining project site for cement production, covering mining concession applications by TPI Polene Public Company Limited, described the area as limestone hills with active mining zones. The forest, primarily mixed deciduous on limestone terrain, extends eastward and northward, with intact surrounding woodlands. Large trees are rare, and the dominant native species include *Spondias bipinnata*, *Vitex peduncularis*, and *Bombax anceps*, with canopy heights of 12–17 meters and a sub-canopy of 5–8 meters. The survey identified at least 75 plant species, including 33 tree species, highlighting the area's biodiversity despite mining activities.

According to the TG7 and TG8 Environmental Impact Assessment (EIA) Reports, certain species in the forest areas surrounding the plant may be classified as Vulnerable or Endangered per the IUCN Red List. After reviewing TG8 Monitoring Report and as per the interview with TPIPP, TPIPP has a mitigation plan in place. Employees are advised not to encroach into the forests or to poach the wildlife. **However, DNV recommends TPIPP to continuously monitor IUCN Red List species in order to understand efficiency of the mitigation measures.**



ที่มา: บริษัท ทอท-คลาส คอนซัลแทนท์ จำกัด, 2559

Figure 12 Biodiversity survey area (TG 7’s EIA Report page 3-58 and TG 8’s EIA Report page 3-83)

ตารางที่ 3.3-4 : (ต่อ) แสดงบัญชีรายชื่อสัตว์ป่า ระดับความชุกชุม สถานภาพ และการกระจายพันธุ์ของสัตว์ป่าในถิ่นอาศัยหลักที่พบในพื้นที่ศึกษา

ชื่อวิทยาศาสตร์ตามลำดับอนุกรมวิธาน	ชื่อไทย	ระดับความชุกชุม	สถานภาพ ^{1/}			การกระจายพันธุ์ในถิ่นอาศัยหลัก ^{2/}				สำรวจพบ ^{3/}	
			พรบ.	สผ.	IUCN	ป่าไม้	เหมืองแร่	เกษตร	ชุมชน	ในพื้นที่โครงการ	นอกพื้นที่โครงการ
Pythonidae วงศ์งูเหลือม											
74 <i>Python reticulatus</i>	งูเหลือม ^{1/}	ปานกลาง	คุ้มครอง	LC	-	✓	-	✓	-	-	✓
75 <i>Python molurus</i>	งูหลาม ^{1/}	ปานกลาง	คุ้มครอง	LC	VU	✓	-	✓	-	-	✓
<i>Chelonia</i>											
Testudinidae (Land Tortoises) วงศ์เต่าบก											
76 <i>Indotestudo elongata</i>	เต่าเหลือง ^{1/}	น้อย	คุ้มครอง	EN	EN	✓	-	-	-	-	✓
รวม	-	-	7	14	10	12	0	13	6	2	15
Class Amphibia	สัตว์สะเทินน้ำสะเทินบก										
Anura (Salientia)											
Bufoinae (Typical Toads) วงศ์คางคก											
77 <i>Bufo melanostictus</i>	คางคกบ้าน	ปานกลาง	-	LC	LC	-	-	✓	✓	-	✓
Ranidae วงศ์กบ											
78 <i>Occidozyga martensii</i>	เขียดทราย	น้อย	-	LC	LC	-	-	✓	✓	-	✓
Microhylidae วงศ์ซิ้งอ่าง											
79 <i>Microhylla omata</i>	อึ่งน้ำเต้า	น้อย	-	LC	LC	-	-	✓	✓	-	✓
80 <i>Kaloula pulchra</i>	อึ่งอ่างบ้าน	ปานกลาง	-	LC	LC	-	-	✓	✓	-	✓
รวม	-	-	0	4	4	0	0	4	4	0	4

ที่มา: บริษัท ทอท-คลาส คอนซัลแทนท์ จำกัด, 2559

หมายเหตุ: ^{1/} สถานภาพของสัตว์ป่าที่พบ

พรบ. หมายถึงสถานภาพตามพระราชบัญญัติสงวนและคุ้มครองสัตว์ป่า พ.ศ. 2535

- หมายถึงสัตว์ป่าที่ไม่ได้รับการคุ้มครองตามกฎหมาย

Figure 13 Animal species found during the survey (TG 7’s EIA Report page and TG 8’s EIA Report page 3-99)

The 2024 research studied by Suan Sunantha Rajabhat University on heavy metal and pollutant levels, assessing health and cancer risks for communities near the 150 MW Thermal Power Plant by TPIPP in Muak Lek and Kaeng Khoi Districts, Saraburi Province. The study covered villages including Ban Sap Pradu, Ban

Khao Mai Kwien, Ban Sap Phrik, Ban Sap Bon, Ban Rai, and Ban Tham Nam Phu. Samples included vegetables (sweet basil, basil, acacia, morning glory), fruits (banana, papaya), fish (catfish, tilapia), shellfish, soil, sediment, rainwater, groundwater, tap water, bottled water, and raw milk from farms in Ban Sap Phrik and Ban Sai Ngam. Analyzed heavy metals were lead, cadmium, arsenic, chromium (VI), nickel, mercury, manganese, and thallium, with dioxins in sediment. Analytical methods included Inductively Coupled Plasma, Colorimetric, Cold-Vapor AAS, and Gas Chromatography with High-Resolution Mass Spectrometry. Results showed heavy metal concentrations in food, water, soil, and milk within safe limits, with sediment dioxins averaging 0.00007151 mg/kg-I-TEQ. Health risk assessments indicated safe levels for consumption, with total risks ranging from 6.66×10^{-4} (Ban Rai) to 6.37×10^{-2} (Ban Sap Pradu), confirming no immediate health or cancer risks for the studied communities.

The 2024 Monitoring Report indicates that there is no significant impact on the aquatic species living in Pasak river.

Schedule 5 Minimum Social Safeguard (MSS) Assessment

To be Thailand Taxonomy-compliant, an asset or activity must avoid negative social impacts and adhere to minimum social safeguards (MSS). This requires compliance with Thai regulations, international principles, and a robust social management system at the enterprise level.

DNV has conducted MSS assessment based on the online media research, and documents made available to DNV in July 2025 which includes:

- [2024 One Report](#)
- [TPIPP 2024 Sustainability Report](#)
- [DSI's inspection on Chana Industrial Estate land grabbing](#)
- [Business & Human Rights Resource Center: HRD Attack](#)
- [TPIPP's Human Rights Policy](#)

TPIPP prioritizes human rights, aligning with Thailand's BCG Model and adhering to UN and OECD guidelines. Its Code of Conduct and Supplier Code of Conduct ensure fair treatment across the value chain, prohibiting child and forced labour. Employees receive equitable opportunities, safety, and training, with annual satisfaction surveys informing welfare policies. Fair procurement, customer data protection, and stable electricity supply are emphasized. Community engagement includes environmental monitoring, local hiring, and reforestation to minimize impacts. Annual human rights risk assessments address high-risk areas effectively.

The company conducts business responsibly under good governance, respecting human rights and sustainability, aligned with Thailand's BCG Model. It follows UN and OECD guidelines, with policies like the Code of Conduct ensuring fair stakeholder treatment. Employee rights, diversity, and safety are prioritized, with fair compensation and training. Partners face transparent procurement and human rights compliance. Customers receive stable electricity and data protection, with satisfaction surveys driving improvements. Community engagement, environmental monitoring, and local hiring minimize impacts. Comprehensive human rights due diligence identifies and mitigates risks effectively.

The company emphasizes respect for employee rights, managing labour responsibly through its HR department, promoting diversity (e.g., race, religion, gender, age, disability, nationality), equal opportunities, and fair career advancement without discrimination. It supports freedom of association, collective bargaining, and data privacy, prohibiting child labour, forced labour, and illegal labour practices. Employee welfare is managed by a dedicated working group, with representatives negotiating agreements impacting workers, aiming to enhance quality of life, safety, and workplace happiness per the Happy Workplace initiative. Performance evaluations ensure fair compensation, with training tailored to roles to boost skills. Annual employee satisfaction surveys inform policies to improve welfare and safety.

The human rights risk assessment identified 10 human rights issues. One issue, occupational health and safety of employees, was classified as high risk. Other human rights issues in the value chain were assessed as having moderate to low risk levels, as follows:

1. Occupational health and safety
2. Efficiency, readiness, and reliability of the electrical system
3. Non-discrimination
4. Diversity and equal opportunities
5. Freedom of association and collective bargaining
6. Child labour
7. Forced and compulsory labour
8. Local communities

- 9. Protection of personal data
- 10. Safety practices (security personnel)

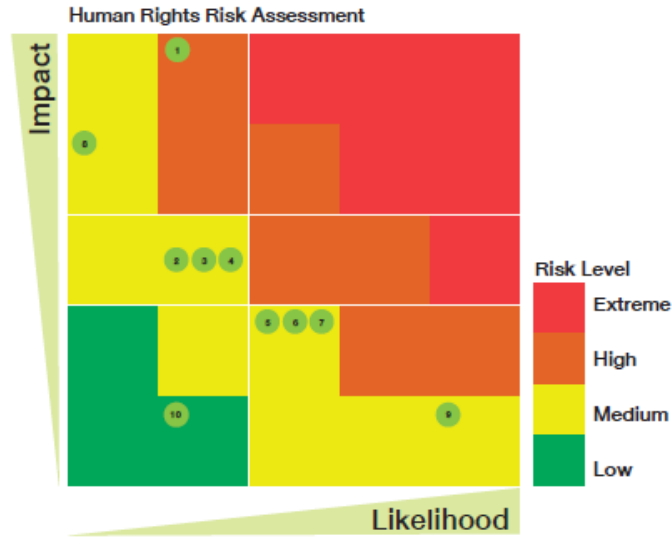


Figure 14: Human Rights Risk Assessment (derived from 2024 Sustainability Report page 47)

Based on internet research, an interview with TPIPP, and the 2024 One Report, DNV notes an ongoing court case in Chana District, Songkhla Province, concerning allegations of inadequate Free, Prior, and Informed Consent (FPIC) in community resettlement related to TPIPP’s waste-to-energy power plant within the Chana Industrial Estate project.

The case involves claims by the Chana Rakthin Network, including 36 villagers arrested during 2021 protests, alleging TPIPP pressured them to vacate homes and farmlands, potentially violating community rights and FPIC principles. The Department of Special Investigation (DSI) may accept related land disputes as a special case under the Special Case Investigation Act B.E. 2547 (2004) due to their complexity and public impact, focusing on land title deeds and possible official misconduct, as detailed on its website. A reported lawsuit filed in June 2022 in the Songkhla Administrative Court against TPIPP and authorities for FPIC non-compliance and rights violations remains unverified. As of July 7, 2025, no public verdict has been reported, suggesting the case is still under review.

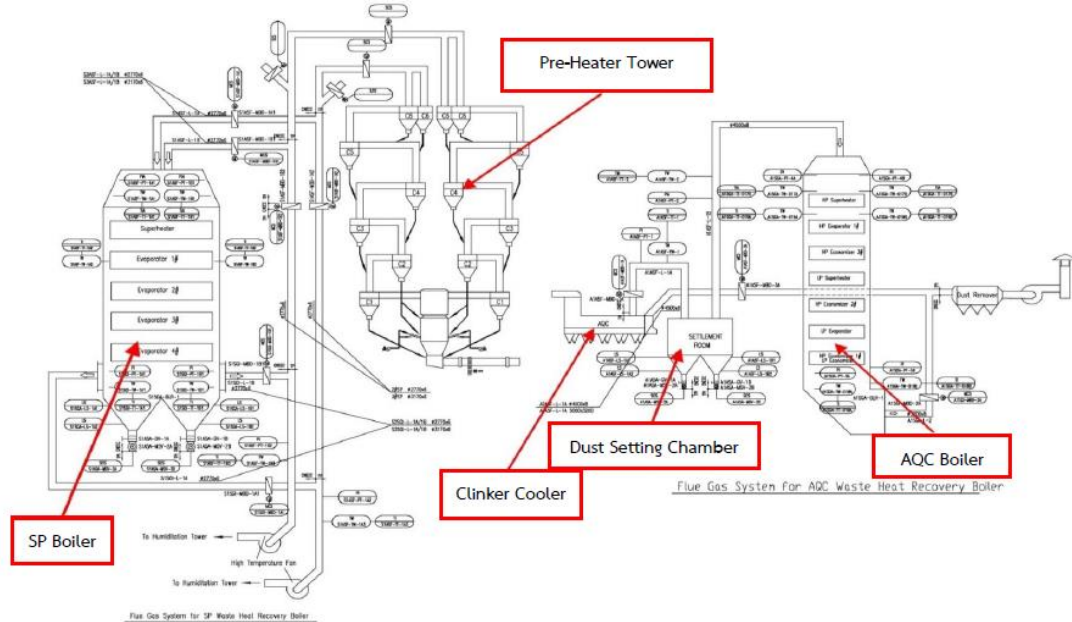
In an interview conducted on 4 July 2025, TPIPP stated that land title deeds were lawfully acquired by TPIPP. TPIPP acknowledges potential miscommunication during the Environmental Impact Assessment (EIA) process and is pursuing conciliation with the local community.

As this case is still ongoing, DNV cannot take a position on violations of Minimum Safeguards Standards (MSS) resulting from this matter. DNV recommends continued monitoring and reporting of the resolution of this case.

Schedule 6 Activities against ASEAN Taxonomy Foundation Framework

The following assets are assessed as per ASEAN Taxonomy Foundation Framework due to the lack of Technical Screening Criteria under Thailand Taxonomy and ASEAN Taxonomy Plus Standard.

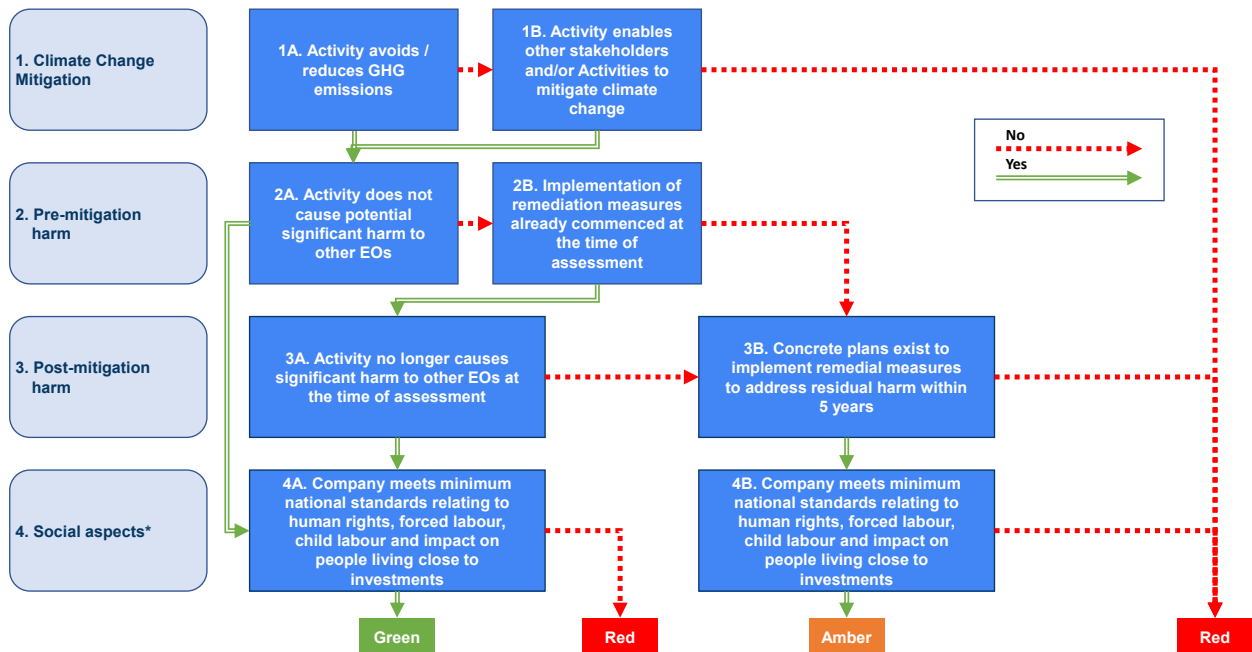
- Electricity Production from combined waste heat (TG4)



ที่มา : บริษัท ทีพีโอ โพลีน เพาเวอร์ จำกัด (มหาชน), 2567

รูปที่ 1-3 ระบบการรับลมร้อนจาก Preheater Tower และ Clinker Cooler ของโรงปูนฯ

Figure 15 TG4 Electricity Production Diagram (TG4 EIA's Report page 1-10)



* Social Aspects (4) assessment is done at Company-level, while all other assessments (1 – 3) are conducted at Activity level.

Figure 16 E01 Decision Tree (ASEAN Taxonomy V3 Page 48)

S/N	Guiding questions – EO1 (Climate Change Mitigation)	Assessment
1A	<p>Does the Activity avoid / reduce GHG emissions?</p> <ol style="list-style-type: none"> 1. How does the Activity avoid or help reduce emissions? (e.g., generation of electricity through renewables.) <ul style="list-style-type: none"> ○ Does the Activity avoid locking in high-carbon activity? (i.e., delaying or preventing the transition towards low carbon alternatives.) ○ Does the Activity avoid leading to significant GHG emissions, including CO₂, CH₄, N₂O, SF₆, NF₃ and/or HFCs? ○ Does the Activity avoid leading to or causing extensive deforestation practices? 2. Do the Company’s policies and business strategy generally avoid contradicting or impeding alignment with the specified EO1 principles? 3. Where applicable and relevant, is a 3rd party certification or verification of alignment of Activity with EO1 available? 4. Does the Activity fulfil relevant environmental law(s) applicable to EO1? 5. Are the effects of climate change mitigation efforts measurable and observable? (e.g., data on amount of carbon emissions avoided.) 	<p>The 30 MW Turbine & Generator Number 4 (TG4) uses waste hot air from TPI Polene’s cement factory, specifically from the Preheater Tower and Clinker Cooler. This hot air, purchased from TPI Polene, is channeled through insulated pipes into the boilers to produce steam for electricity. TG4 requires 1,170,000 cubic meters of hot air per hour and stops if the cement factory halts production, using no back up fuel.</p> <ol style="list-style-type: none"> 1. TG4 use of waste hot air aligns with EO1 by reducing fossil reliance, supporting climate mitigation goals. 2. TPIPP has a goal to be carbon neutral by 2037. TPI Group has a goal to be carbon neutral by 2043. The policies of TPIPP and its mother company do not contradict EO1 principles. 3. The verification of carbon reduction has been conducted under the scheme of Thailand GHG Organisation (TGO). 4. The activity has fulfilled relevant environmental law(s). This is confirmed by the verification of the project under the TGO scheme and also the EIA Report Annex A1-A10. 5. The efforts are measured in a quantitative manner as per required by TGO.
1B	<p>Does the Activity enable other stakeholders and/or other Activities to mitigate climate change?</p> <ol style="list-style-type: none"> 1. Does the Activity help other stakeholders (including the community) to mitigate climate change? (e.g., construction of a building that facilitates urban planting.) <ul style="list-style-type: none"> ○ Does the Activity avoid impeding upstream and/or downstream stakeholders from reducing their GHG emissions? 2. Does the Activity promote intersectoral collaborations for climate change mitigation without negatively affecting other sectors? 3. How does the Activity enable other Activities to mitigate climate change? (e.g., operation of power transmission and distribution equipment that enables the incorporation of solar power.) 4. Are the effects of climate change mitigation efforts by the enabled Activity measurable and observable? (e.g., data on amount of carbon emissions avoided.) 	N/A
	<ul style="list-style-type: none"> • Once evaluation is complete, evaluate the Activity under DNSH and RMT. 	TG4 complies with DNSH and RNT. See Schedule 4 and Schedule 5 for more detail.



About DNV

Driven by our purpose of safeguarding life, property and the environment, DNV enables organisations to advance the safety and sustainability of their business. Combining leading technical and operational expertise, risk methodology and in-depth industry knowledge, we empower our customers' decisions and actions with trust and confidence. We continuously invest in research and collaborative innovation to provide customers and society with operational and technological foresight. With our origins stretching back to 1864, our reach today is global. Operating in more than 100 countries, our 16,000 professionals are dedicated to helping customers make the world safer, smarter and greener group. All rights reserved.