



# Thailand's Draft PDP 2024: Critique and Suggestions

## タイの電力開発計画 (PDP 2024)草案: 評価と提案

December 2024  
2024年12月



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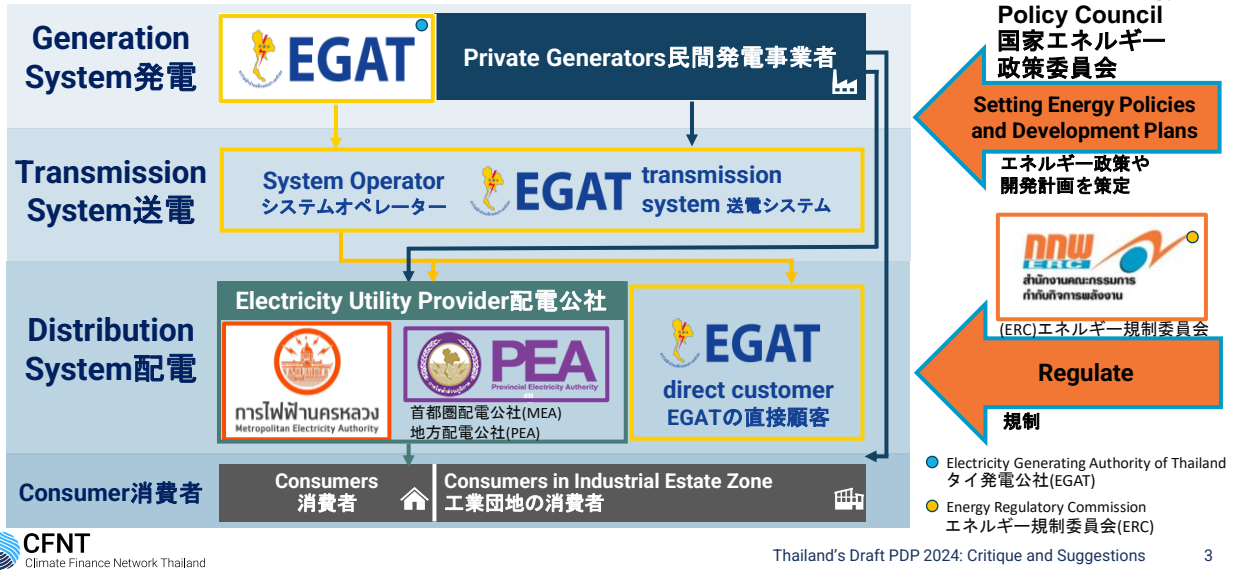
# Introduction to Thailand's Energy Landscape

はじめに  
タイのエネルギー現況



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**Introduction to Thailand's Energy Landscape** はじめにタイのエネルギー現況  
 Understanding Thailand's Enhanced Single Buyer System  
 タイのエンハンスド・シングル・バイヤー制とは



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**Introduction to Thailand's Energy Landscape** はじめにタイのエネルギー現況  
 Thailand's Power Development Plan (PDP) Overview タイの電力開発計画(PDP)全体像

- One of the five energy plans under the framework of the **National Energy Plan (NEP)**.
- **国家エネルギー計画(NEP)**の枠組みで5つあるエネルギー計画のうちの1つ
- **A master plan** for the country's **power generation and supply** in the **long term** (15–20 years).
- 国の**長期** (15~20年間) の**発電・供給マスタープラン**
- The plan aims to strengthen the **power system security** and ensure the adequacy of **power capacity**.
- 計画で**電力システムの保障強化**、**設備容量**の適切性確保を目指す

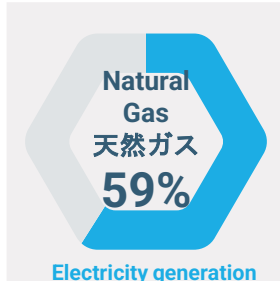


- Developed based on the **nation's energy policies**, taking into consideration a range of factors, including economic growth, fuel diversification for power generation, and more.
- 経済成長や発電用燃料の多元化など多岐考慮の上、**国のエネルギー政策**に基づいて策定
- Typically **reviewed every one to two years** to incorporate changes in key factors that may differ from initial projections.
- 当初見通し以降に重要要素に生じた変化を反映するため、通常、**1~2年ごとに見直し**
- Must be approved by the **National Energy Policy Committee (NEPC)**, chaired by the Prime Minister.
- 首相が議長を務める**国家エネルギー政策委員会(NEPC)**による承認が必須

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## Introduction to Thailand's Energy Landscape はじめにタイのエネルギー現況

Thailand's Current Electricity Generation Sector タイの発電分野の現状



Electricity generation  
by fuel type  
発電燃料

- As of 2024, **natural gas** comprises **59%** of the electricity generation mix.
- 2024年現在、**天然ガス**は電源ミックスの**59%**を占める

Source: Draft PDP2024

EGAT (2024) Ft rate for September – December 2024

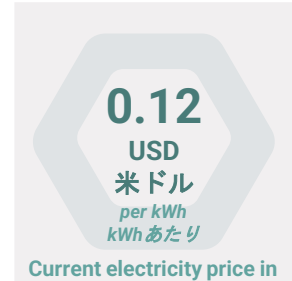
Green Network (2024) The ERC announces a new electricity rate for January – April 2024 at 4.18 baht per unit

JUSTPOW (2024) Market share of private power plants in electricity generation.



Electricity production  
by producer type  
電力生産者

- The **largest** source of electricity is purchasing from the **private sector**.
- As of December 2023, private sector production accounted for **67.27%**
- 電力の**最大の**供給源は**民間事業者**からの購入
- 2023年12月現在、民間事業者による生産が**67.27%**



Current electricity price in  
Thailand  
現在の電力料金

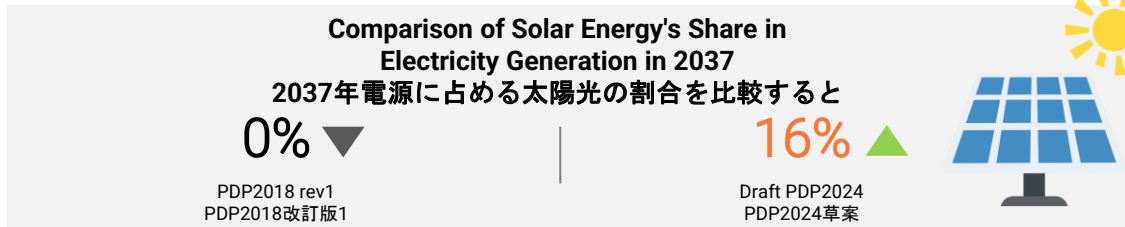
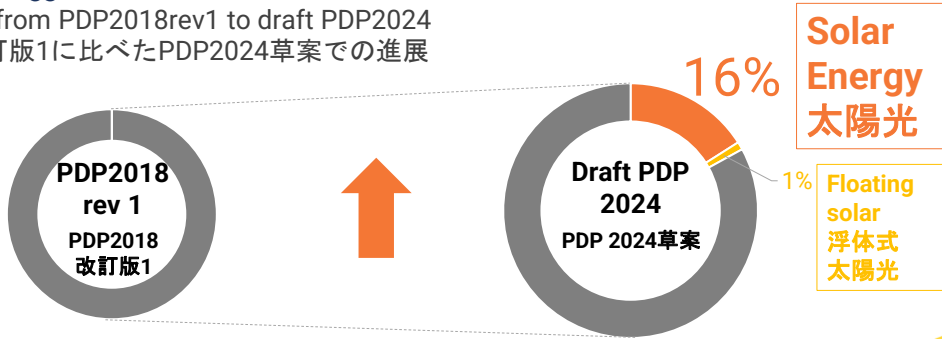
- The current electricity price in Thailand is approximately **0.12 USD/kWh** (or 4.18 THB per kWh.)
- タイの現在の電力料金は約**0.12米ドル/kWh** (4.18 バーツ/ kWh)

## Critique and Suggestions to Draft PDP2024

電力開発計画 (PDP2024)  
草案の評価と提案

**Critique and Suggestions to Draft PDP2024** PDP2024草案の評価と提案

Progression from PDP2018rev1 to draft PDP2024  
PDP2018改訂版1に比したPDP2024草案での進展

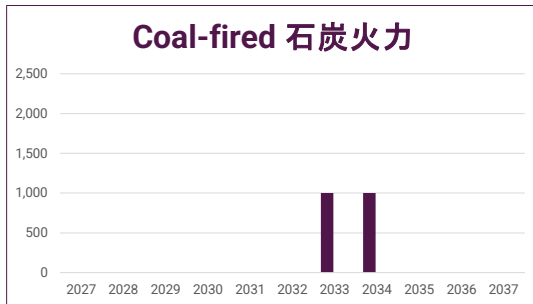


Source: Draft PDP2024

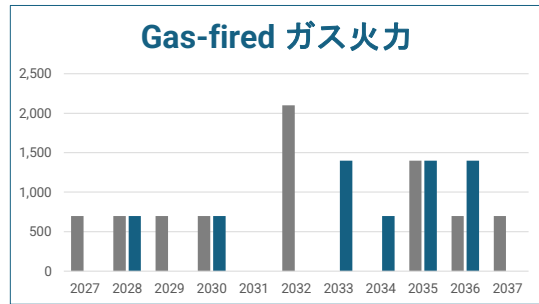
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**Critique and Suggestions to Draft PDP2024** PDP2024草案の評価と提案

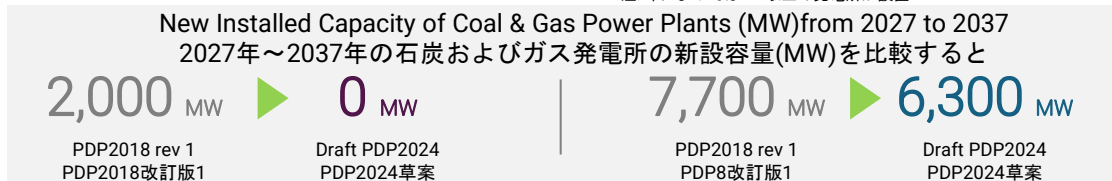
Progression from PDP2018rev1 to draft PDP2024  
PDP2018改訂版1に比したPDP2024草案での進展



\*Note: There are no new power plants in the draft PDP2024.  
\*注: PDP2024草案では新規計画案はない



\*Note: The installed capacity for some years includes more than one power plant.  
\*注: 年によっては1つ以上の発電所が設置



Source: Draft PDP2024

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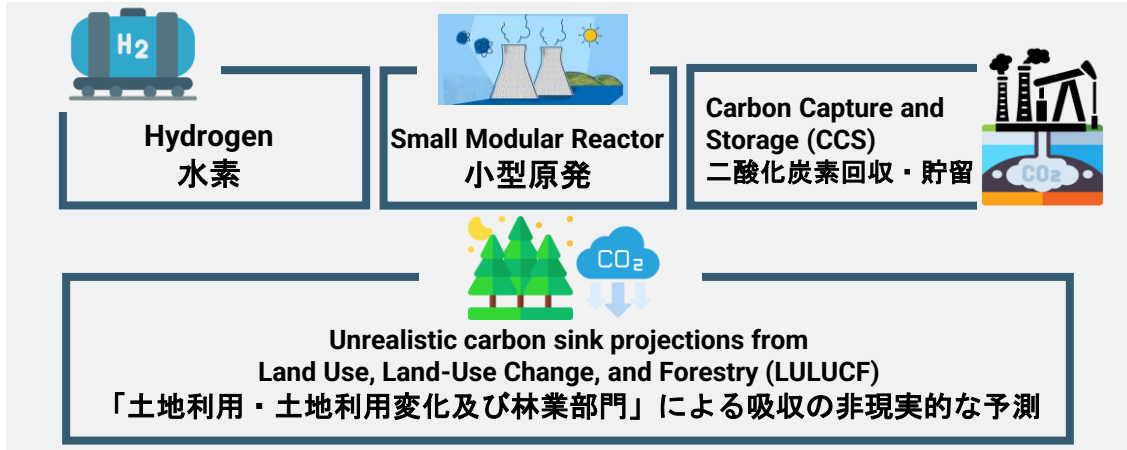
**Critique and Suggestions to Draft PDP2024** PDP2024草案の評価と提案

Dependence on False Solutions

誤った対策への依存

Draft PDP2024 & LT-LEDS still relies on unproven and expensive technologies:

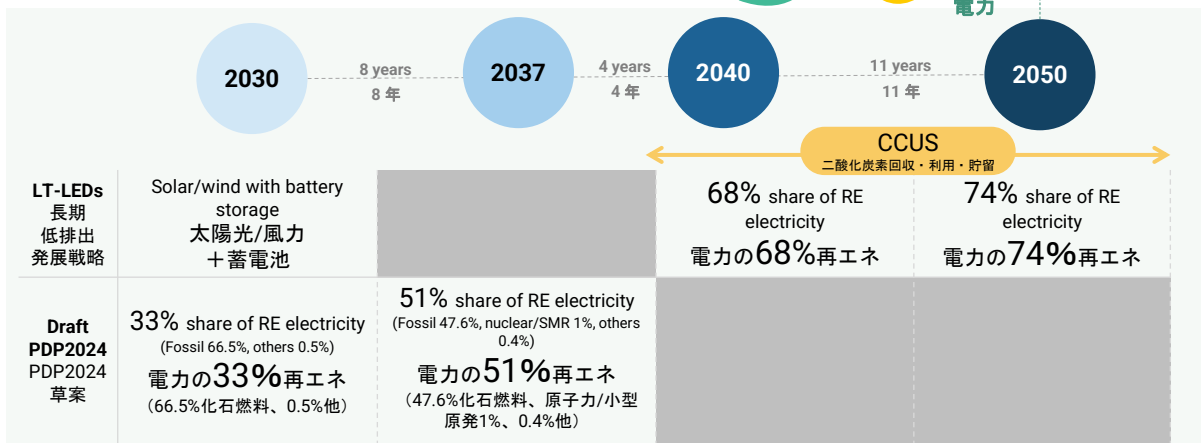
PDP2024草案と長期低排出発展戦略は未立証で高価な技術に未だに依存:



**Critique and Suggestions to Draft PDP2024** PDP2024草案の評価と提案

RE electricity % Target : LT-LEDS vs. Draft PDP2024

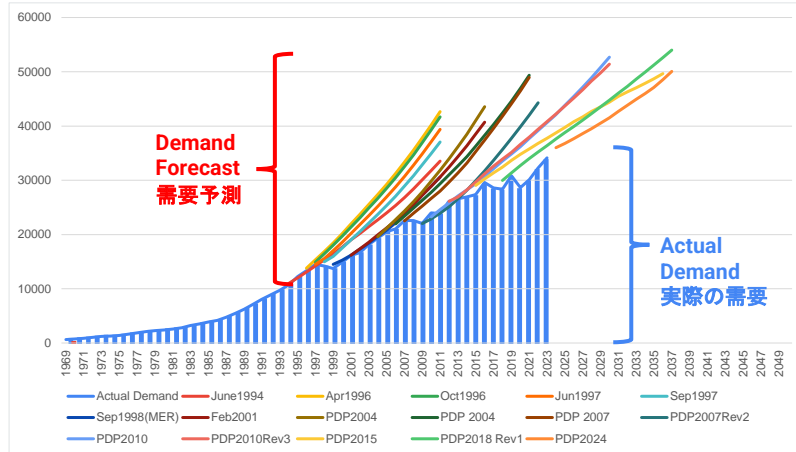
再エネ %目標: 長期低排出発展戦略 対 PDP2024草案




Source: ONEP (2022) Thailand's Long-Term Low Greenhouse Gas Emission Development Strategy Draft PDP2024

Critique and Suggestions to Draft PDP2024 PDP2024草案の評価と提案

Overestimated Electricity Demand  
過剰な電力需要予測



Source: EGAT (2024) Peak electricity demand




- The demand forecast has consistently led to **overcapacity** in the system.
- Government projections have **repeatedly overestimated** actual electricity demand.
- 需要予測がシステムの**設備過剰**に、一貫して繋がってきた
- 政府見通しは実際の電力需要よりも**繰り返し過大予測**

Critique and Suggestions to Draft PDP2024 PDP2024草案の評価と提案

Low Power Plant Utilization Factor  
発電所の低い稼働率

IPPs 独立系発電事業者	Installed Capacity 設備容量 (MW)	Plant Factor稼働率 (%)	
		2023	2024
KEGCO	930	69%	50%
GPSC	700	24%	0%
RATCH	3,481	22%	9%
GLOW IPP	713	13%	0%
EPEC	350	0%	0%
BLCP	1,347	92%	95%
Gulf-GPG	1,468	4%	0%
RPCL	1,400	0%	0%
GHECO-1	660	43%	42%
Gulf JP NS	1,600	5%	18%
Gulf JP UT	1,600	10%	0%
Gulf SRC	2,500	74%	78%

Source: EGAT (2024) Electricity rates



**More than half** of the IPP power plants are **inactive**.

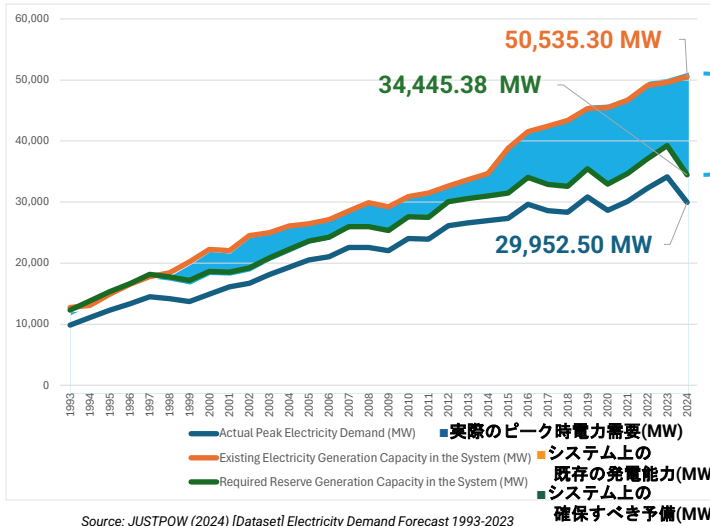
独立系発電事業者による発電所の**半数以上が稼働していない**



Critique and Suggestions to Draft PDP2024 PDP2024草案の評価と提案

Excess generation capacity  
余剰発電能力

\*Information as updated by EGAT as of September 2024  
\*EGATの2024年9月更新情報による



Excess generation capacity above the reserve requirement  
確保すべき予備以上の過剰な発電能力

- Thailand's reserve margin exceeds the standard 15% threshold.
- Continuous contracting of additional capacity has led to substantial overcapacity.
- タイの予備率は基準値である15%を超過している
- 追加の能力を契約し続けたことで大幅な設備過剰に

Source: JUSTPOW (2024) [Dataset] Electricity Demand Forecast 1993-2023  
JUSTPOW (2024) Even with a peak usage of 34,443.1 MW, the power reserve remains excessive  
EGAT (2024) Contracted capacity of the system

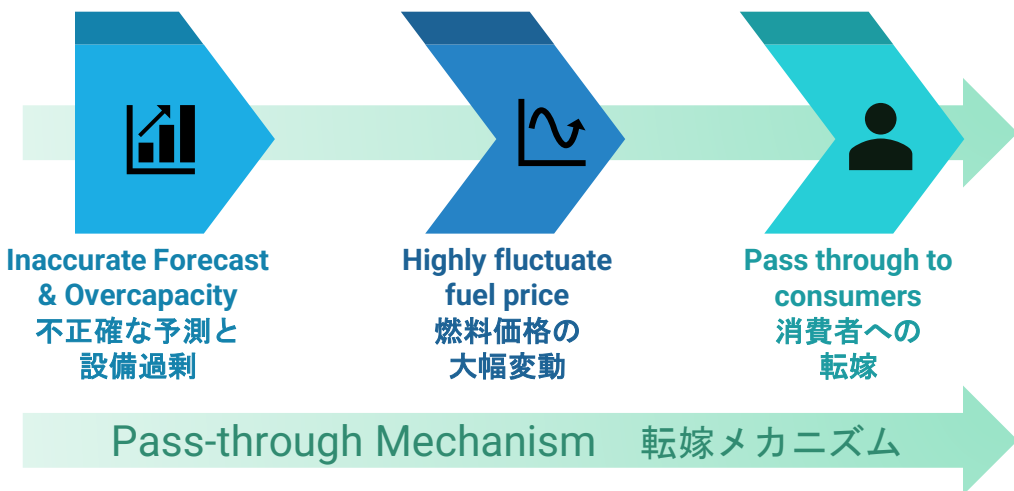


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Critique and Suggestions to Draft PDP2024 PDP2024草案の評価と提案

Pass-Through Mechanism  
転嫁メカニズム

Option 1

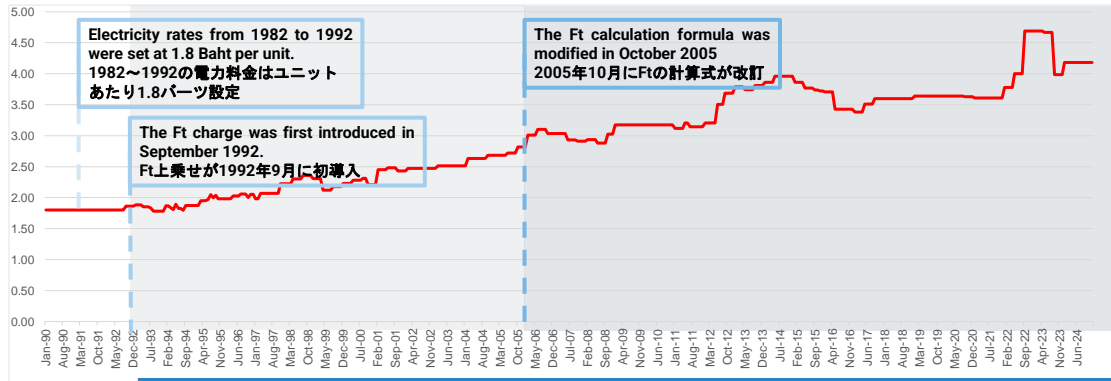


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Critique and Suggestions to Draft PDP2024 PDP2024草案の評価と提案

Pass-Through Mechanism: Fuel Adjustment Charge (Ft)

転嫁メカニズム: 燃料調整費 (Ft)



- Electricity rates **increased** after the introduction of the Ft mechanism.
- The rates **rose** even **further** following changes to the Ft calculation formula.
- Ftメカニズム導入後に電力料金**上昇**
- Ftの計算式の変更に伴い電力料金は**さらに上昇**

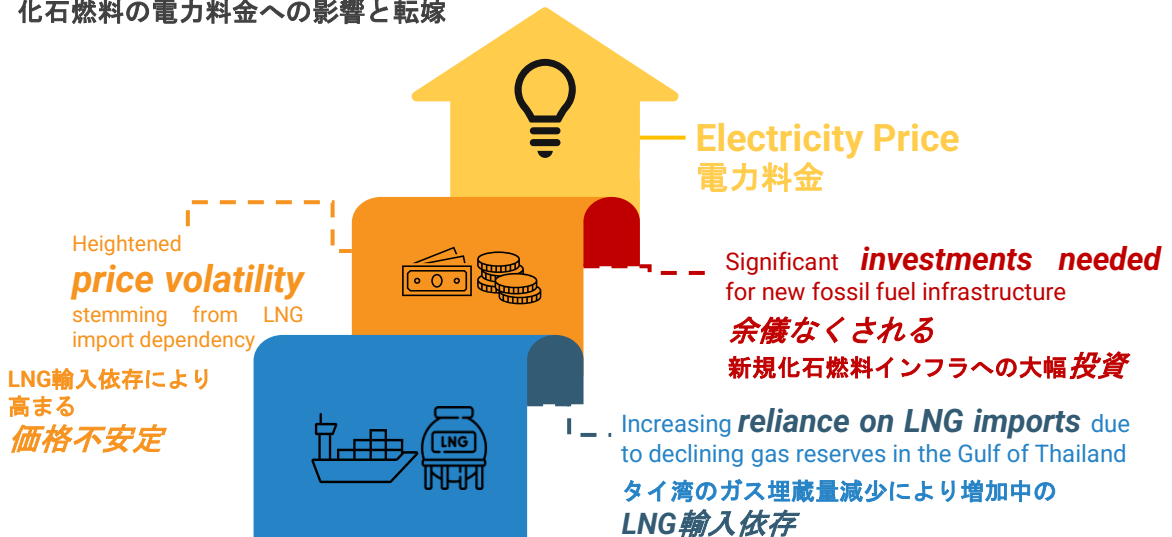
Source: ERC (2024) Electricity rate information  
JUSTPOWER (2024) Electricity rates from 1982 to 2024 and the introduction of the FT rate

Thailand's Draft PDP 2024: Critique and Suggestions

Critique and Suggestions to Draft PDP2024 PDP2024草案の評価と提案

Impact of Fossil Fuels on Rates and Pass-Through Adjustments

化石燃料の電力料金への影響と転嫁



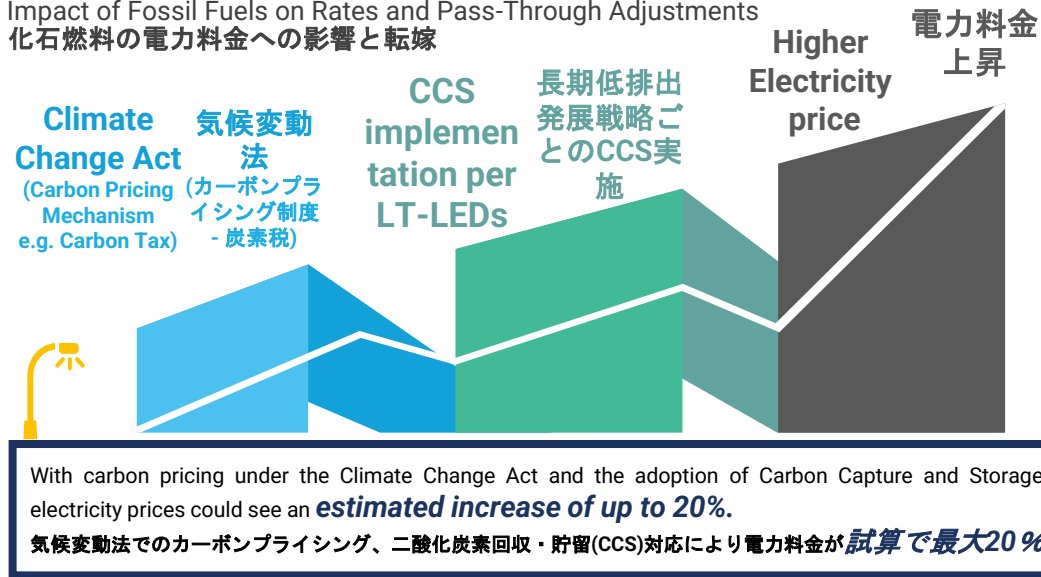
CFNT Climate Finance Network Thailand

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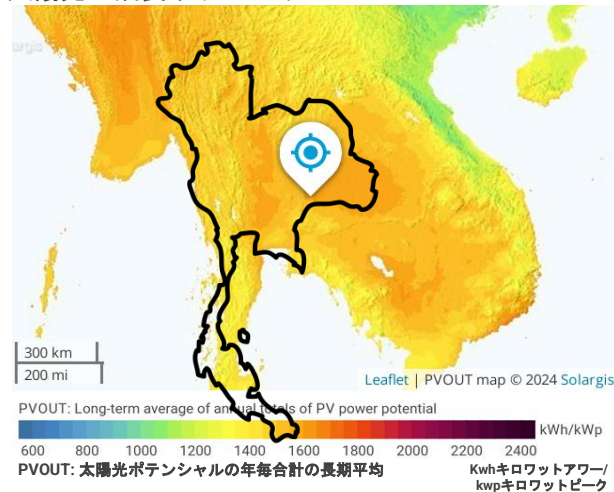
**Critique and Suggestions to Draft PDP2024** PDP2024草案の評価と提案

Impact of Fossil Fuels on Rates and Pass-Through Adjustments  
化石燃料の電力料金への影響と転嫁



**Critique and Suggestions to Draft PDP2024** PDP2024草案の評価と提案

Growth Potential for Solar  
太陽光の成長ポテンシャル



Average **daily** power output per unit of installed photovoltaic capacity is **4.360 kWh/m<sup>2</sup>-day**.

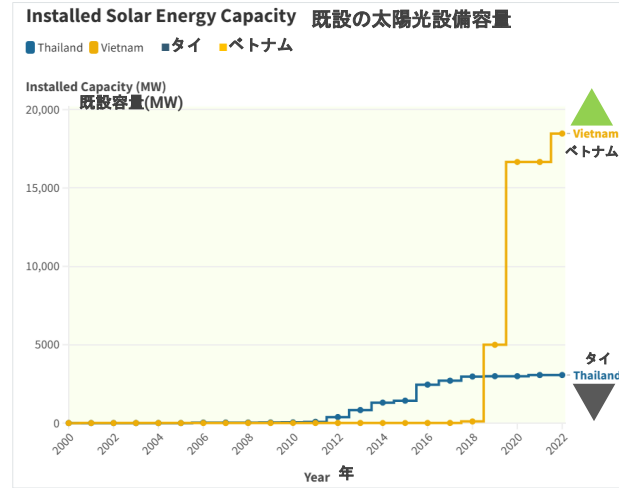
既設の太陽光設備1ユニットの1日あたり平均出力は **4.360kWh 毎平方メートル**

-  **Fridge** Up to 800 W 冷蔵庫 800 W まで
-  **Air Conditioner** Up to 4,000 W エアコン4,000 W まで

Source: *Energysage (2024) How many watts does a refrigerator use?*  
*Energysage (2024) How much energy does an air conditioner use?*  
*Global Solar Atlas (2024)*

Critique and Suggestions to Draft PDP2024 PDP2024草案の評価と提案

Key Barriers: Unsupportive government policy  
 主な障壁：政府方針によるサポート欠如



Source: Sal Forest (2023) Unlocking the Potential of Renewable Energy with Financial Innovation

- Thailand's solar energy sector growth has **stagnated** over the past five years.
- Growth has been stunted due to a **lack of government support**, including a complex regulatory approval process, low Feed-in Tariff (FIT) rates, and the absence of net metering schemes.
- In contrast, **Vietnam** has experienced rapid **growth**, especially in solar energy, fueled by strong government incentives and streamlined policies.
- タイの太陽光エネルギー分野の成長は過去5年間横ばい
- 成長不良は、複雑な承認手続規制、低価格の固定価格買取（FIT）、ネットメータリング制度の不存在など、政府方針によるサポート欠如に起因
- 対照的にベトナムは政府の強力な推奨策と合理化で特に太陽光エネルギーの急激な成長を経験

Critique and Suggestions to Draft PDP2024 PDP2024草案の評価と提案

Unambitious Climate Target 意欲に欠ける目標



Overall rating 全体評価 <b>CRITICALLY INSUFFICIENT 極めて不十分</b>			
Policies and action against fair share <b>CRITICALLY INSUFFICIENT</b> 4°C+ WORLD 極めて不十分 4°C+ 世界	Conditional NDC target against modelled domestic pathways <b>INSUFFICIENT</b> <3°C WORLD 不十分 <3°C 世界	Unconditional NDC target against fair share <b>CRITICALLY INSUFFICIENT</b> 4°C+ WORLD 極めて不十分 4°C+ 世界	Climate finance 気候資金 <b>NOT APPLICABLE</b> 該当せず
Net zero target ネットゼロ目標	year 2065 年	comprehensiveness rated as AVERAGE 包括的には 標準的	Land use & forestry 土地利用&森林
		historically considered a SINK 歴史的判断では 吸収	

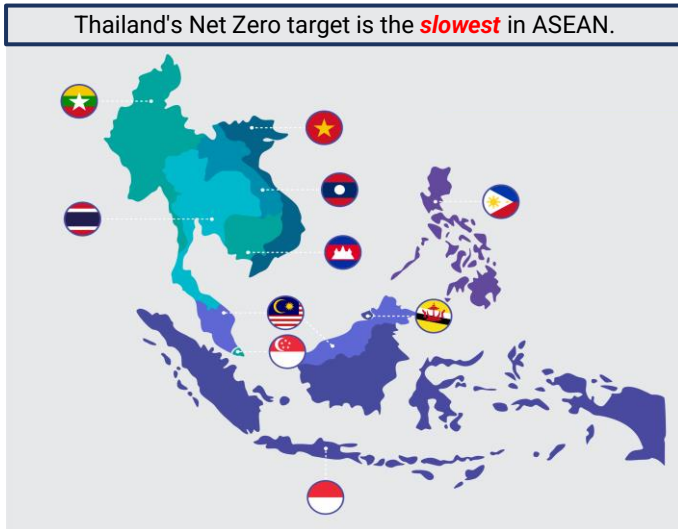
- According to Climate Action Tracker, Thailand's 2030 conditional targets are rated as **"Insufficient."**
  - Thailand's conditional target for 2030 is **not aligned** with the 1.5°C temperature pathway.
  - クライメートアクショントラッカー分析ではタイの2030年条件付目標は **"不十分"**
    - タイの2030年条件付目標は1.5°C道筋と **不整合**

Source: Climate Action Tracker (2022) Thailand

Critique and Suggestions to Draft PDP2024 PDP2024草案の評価と提案

タイのネットゼロ目標年はアセアンで最も遅い。

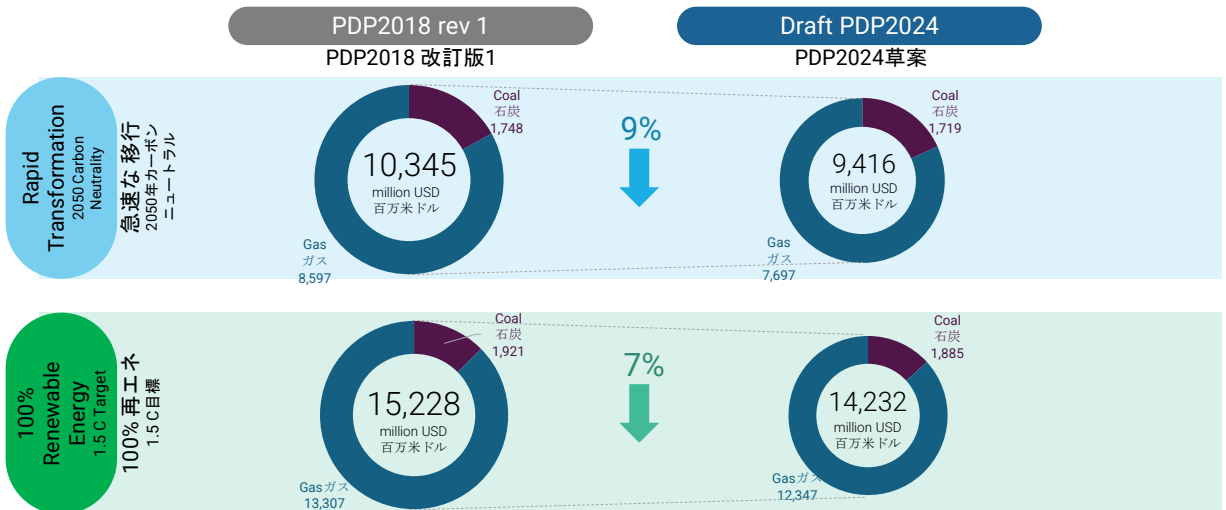
Thailand's Net Zero target is the **slowest** in ASEAN.

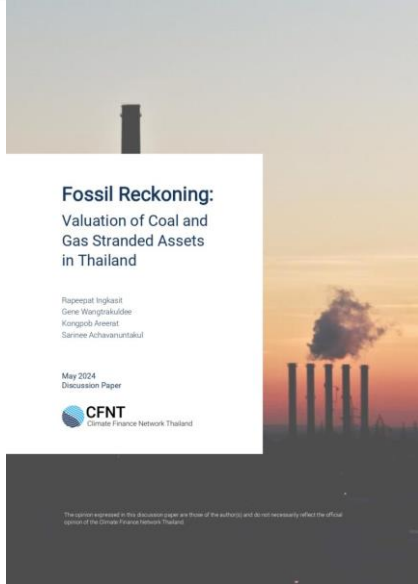


Year	年	Year	年
2040*	Myanmar	2050	Cambodia
2050	Vietnam	2050	Singapore
2065	Thailand	2050	Malaysia
2050	Laos	2050	Brunei
No target	Philippines	2060	Indonesia

Critique and Suggestions to Draft PDP2024 PDP2024草案の評価と提案

Coal & Gas Powerplants: Stranded Assets Valuation 石炭&ガス火力発電所：座礁資産算定



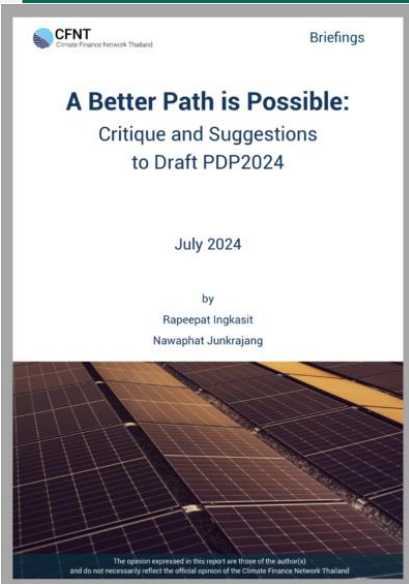


**Fossil Reckoning:  
Valuation of Coal and Gas  
Stranded Assets in Thailand**

化石を計数する：  
タイにおける石炭とガスの  
座礁資産の算定



Thailand's Draft PDP 2024: Critique and Suggestions



**A Better Path is  
Possible:  
Critique and Suggestions  
to Draft PDP2024**

より良い道筋は可能：  
電力開発計画2024草案の  
評価と提案



Thailand's Draft PDP 2024: Critique and Suggestions

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