

東南アジアのエネルギーと循環型経済

環境省 環境インフラプラットフォーム オンラインセミナー

黒崎 美穂

2020年11月12日



ローカルとグローバルの 両方の観点から

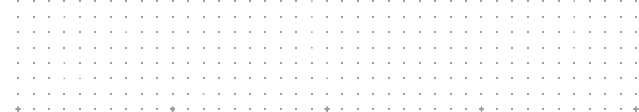


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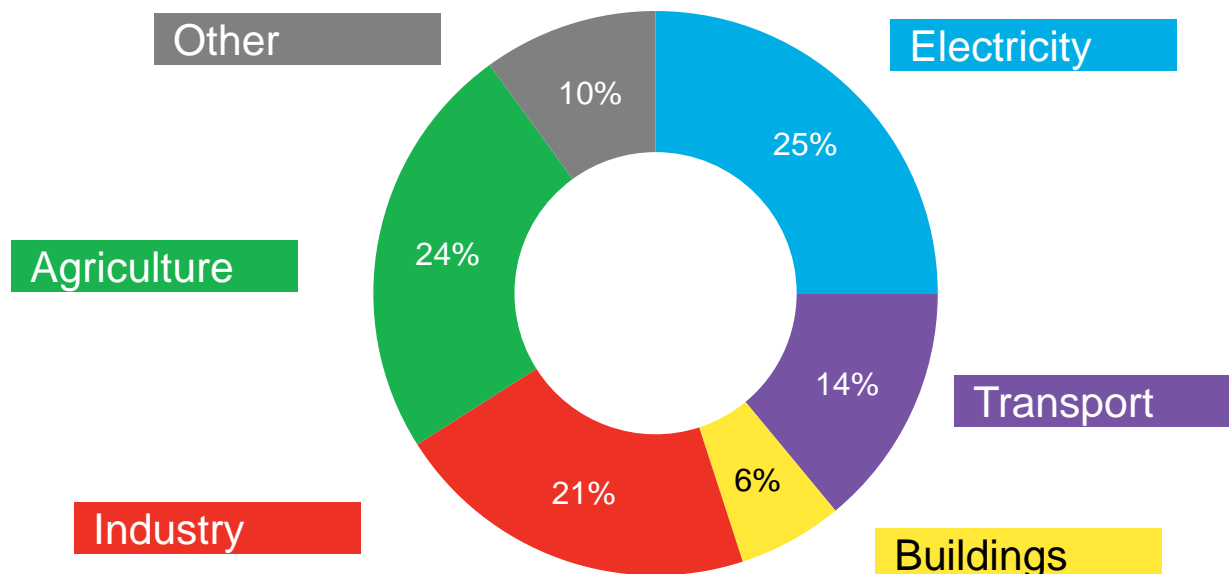
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* Part of the Bloomberg LP network of
19,000 employees in 176 locations.

世界の温室効果ガスセクター別内訳

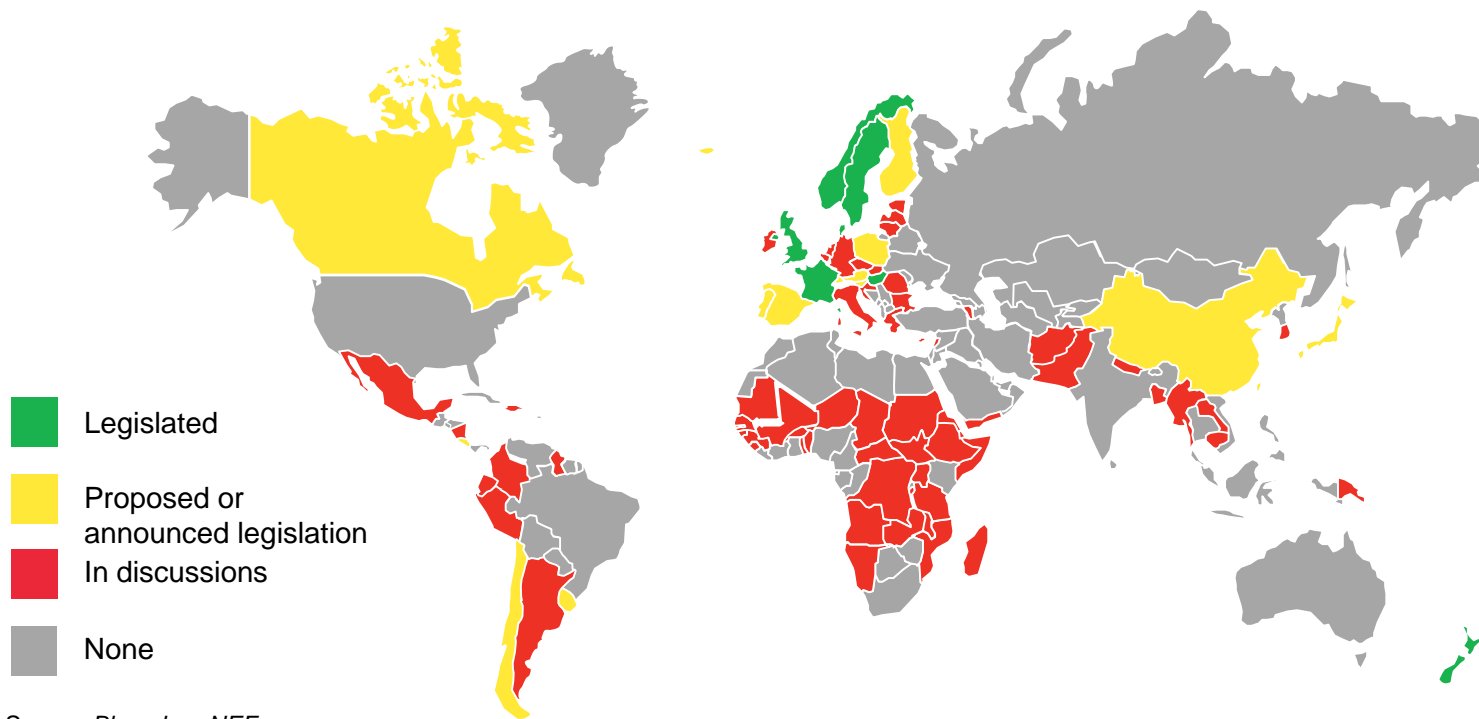


Greenhouse gas emissions by sector



Source: International Energy Agency

ネットゼロカーボンを掲げる国々



Source: BloombergNEF

産業界、脱炭素化の選択肢

1 
エネルギー効率

2 
リサイクル

3 
代替素材

4 
電化

5 
クリーン燃料
CCS

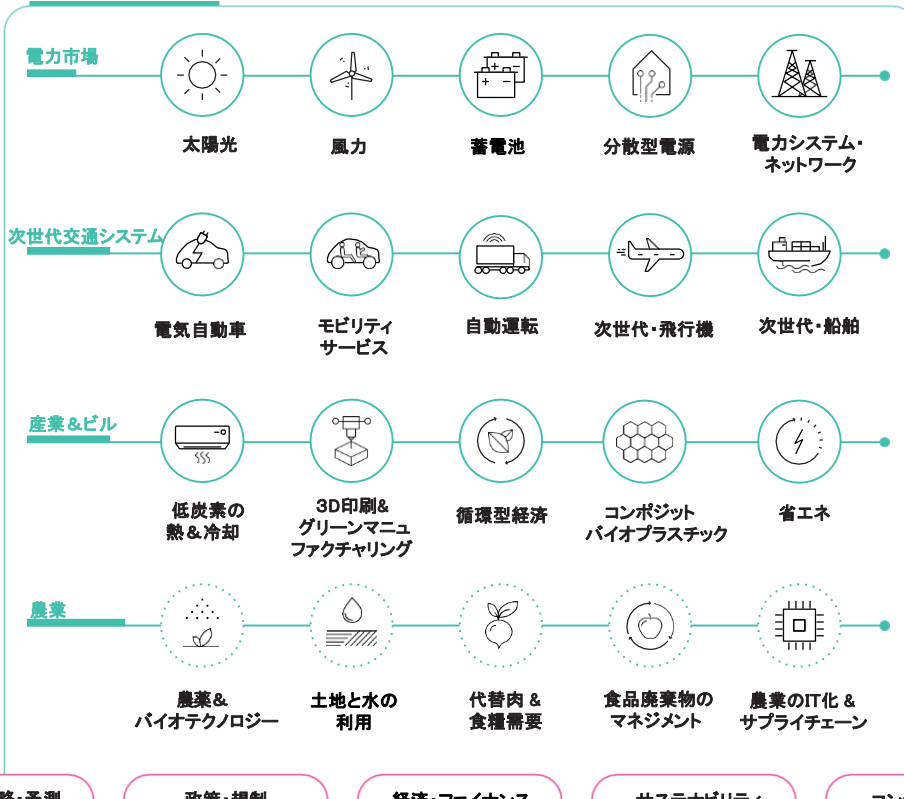
Source: BloombergNEF

BNEF Coverage

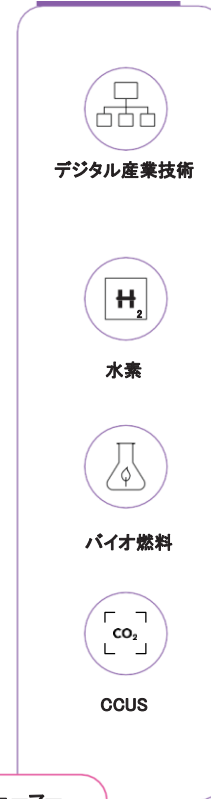
コモディティ



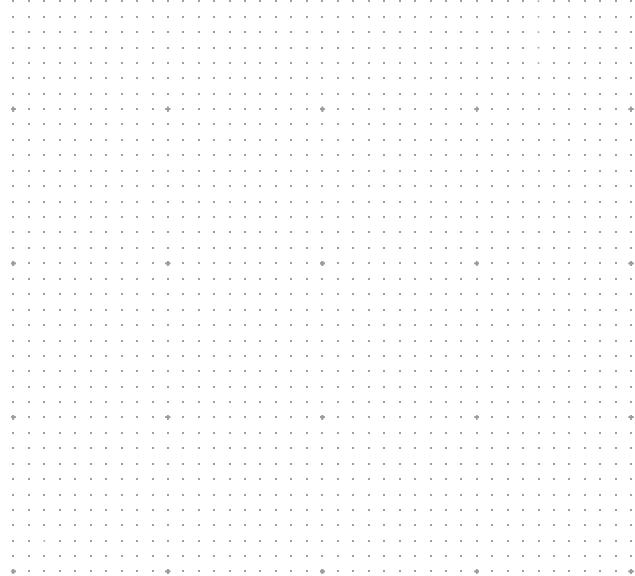
セクター



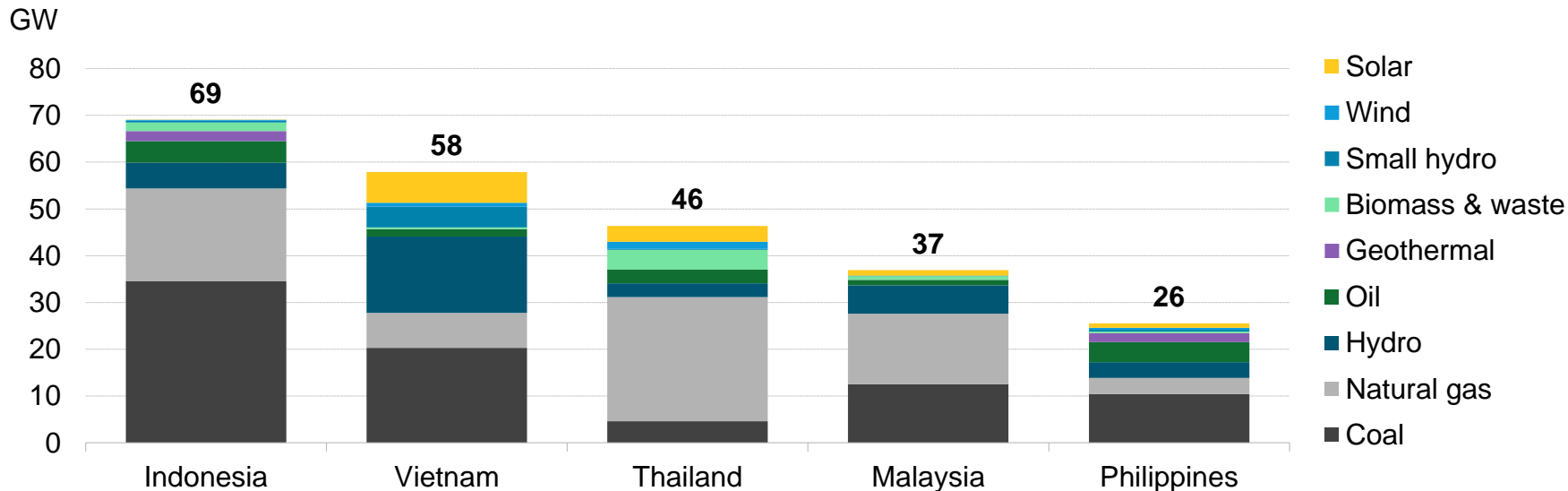
最先端技術



エネルギー

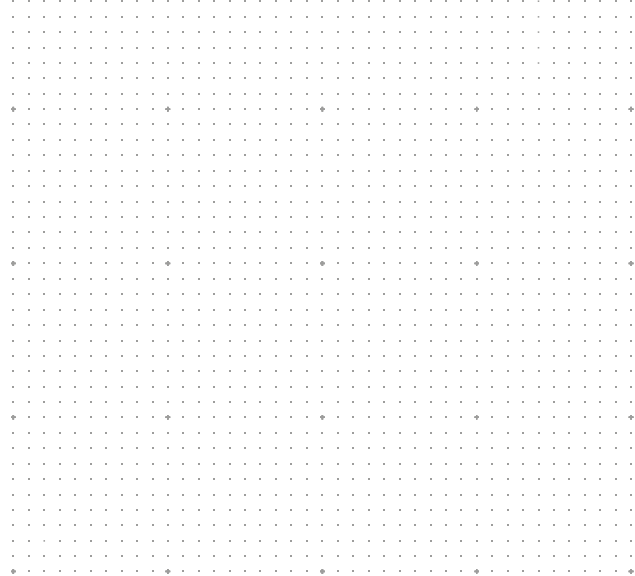


東南アジア 国別電源構成



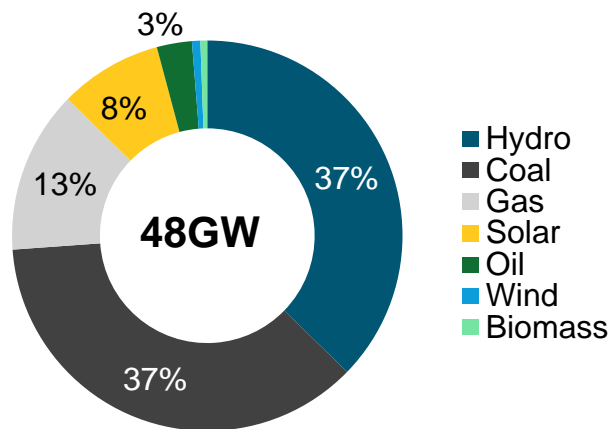
Source: BloombergNEF, Ministry of Energy and Mineral Resources, Indonesia, Institute of Energy, Vietnam, Thailand's Ministry of Energy and Department of Alternative Energy Development and Efficiency, Philippines' Department of Energy Note: Indonesia and Malaysia's figures are estimated for 2019 since official statistics are not available yet.

ベトナム



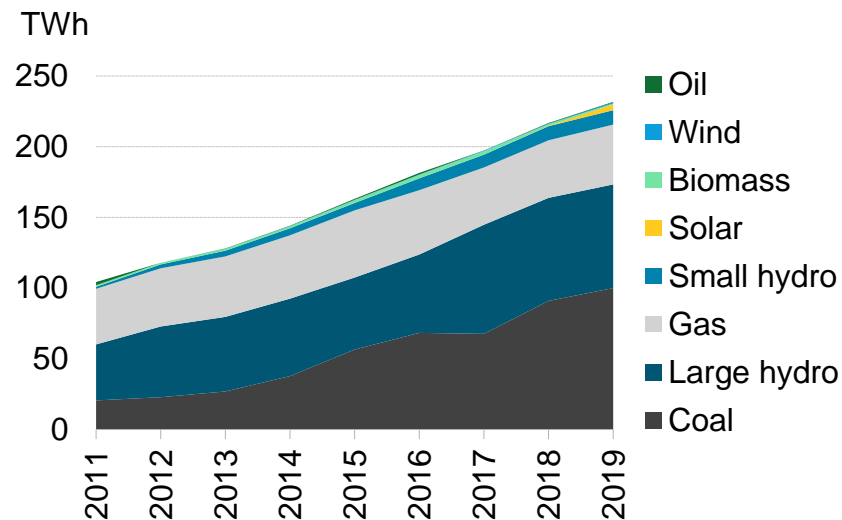
ベトナム：現状の設備容量と電源構成

Vietnam's installed capacity by fuel, 2019



Source: Institute of Energy, BloombergNEF

Vietnam's generation by fuel, 2011-19

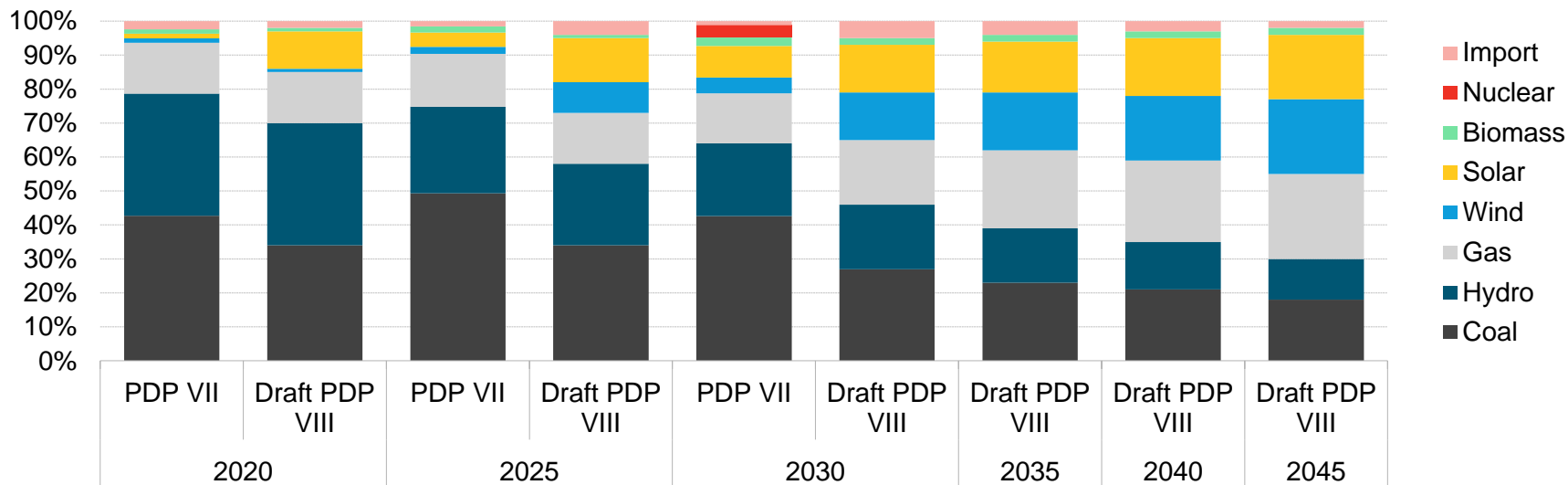


Source: National Load Dispatch Centre, BloombergNEF

エネルギー計画 PDP VIII

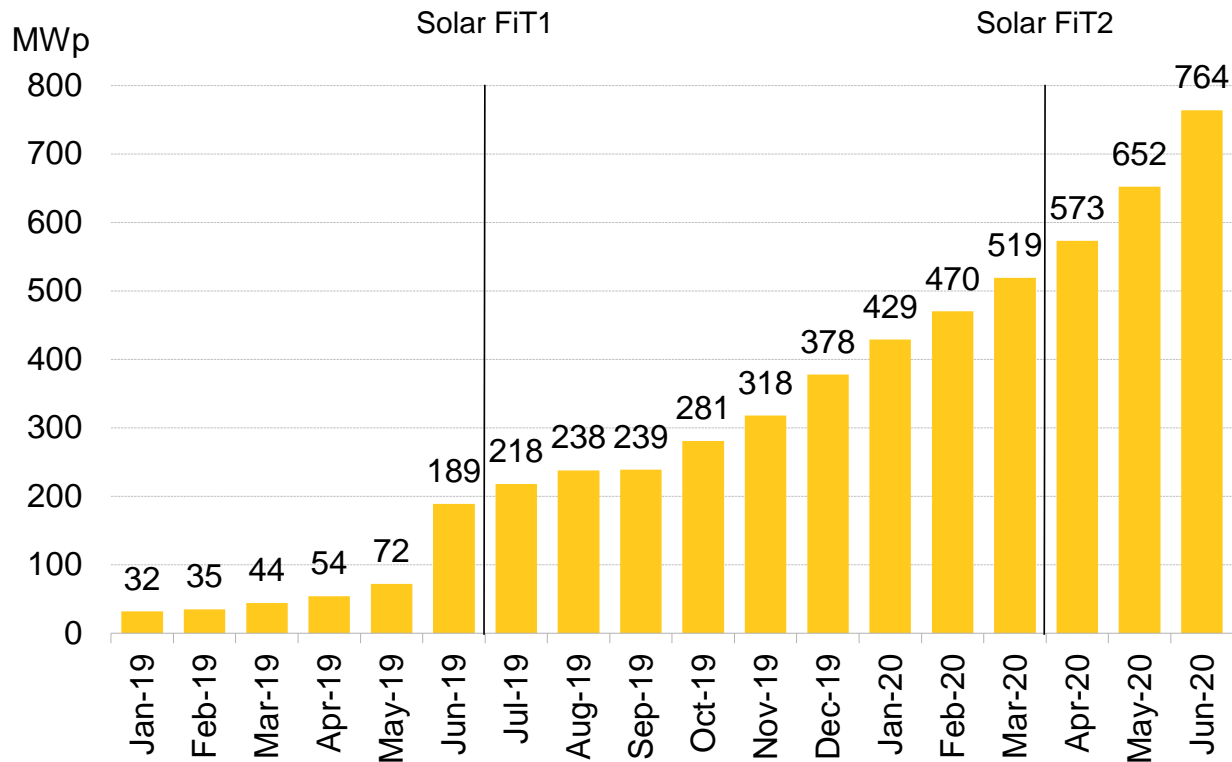
石炭を減らし、ガスと再エネへ重視

Proposed capacity mix under Power Development Plan VII v.s. draft PDP VIII



Source: Ministry of Industry and Trade, Institute of Energy, BloombergNEF

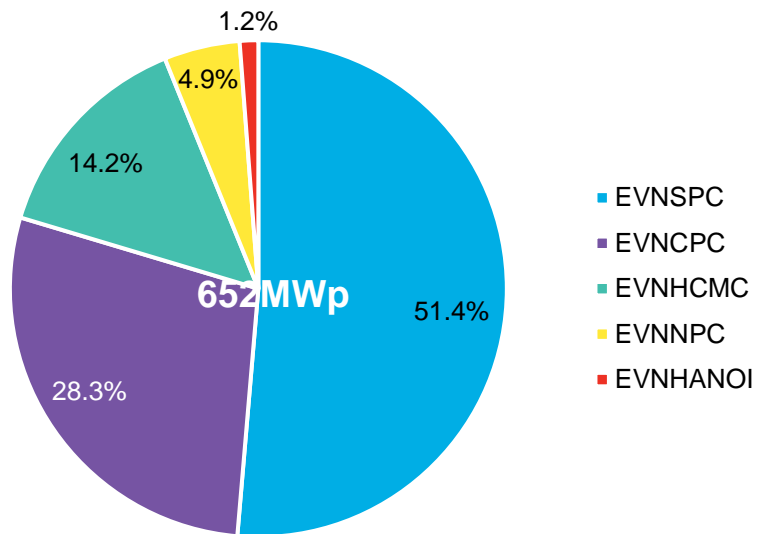
屋根上太陽光導入量



Source: BloombergNEF, VEPG, EVN

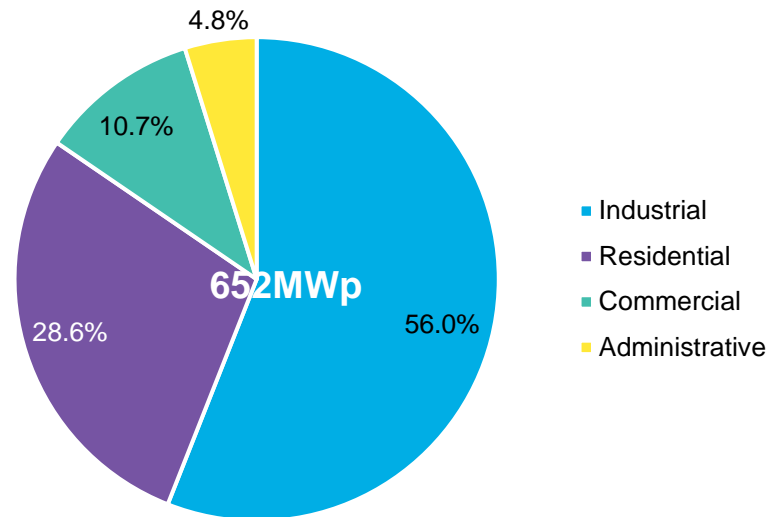
屋根上太陽光導入量、地域別、需要家別 産業用が56%

Breakdown by region



Source: BloombergNEF, EVN

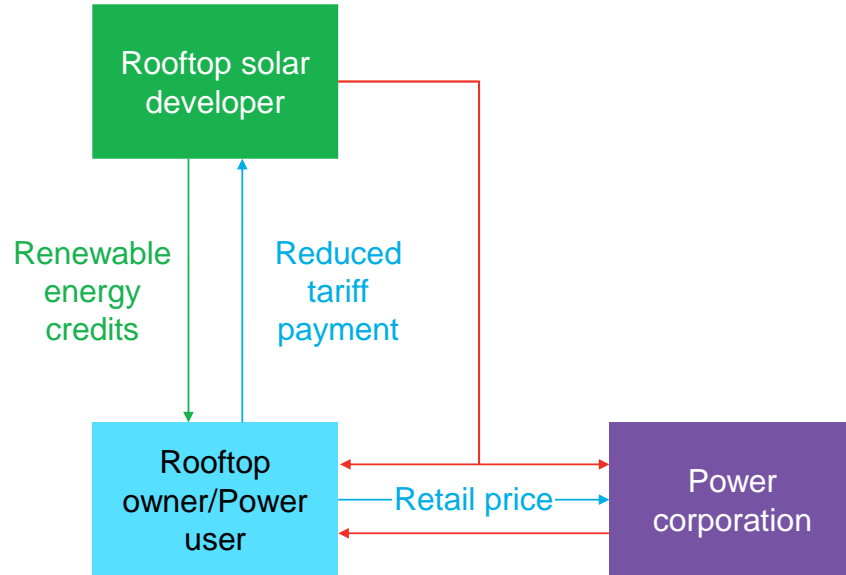
Breakdown by customer group



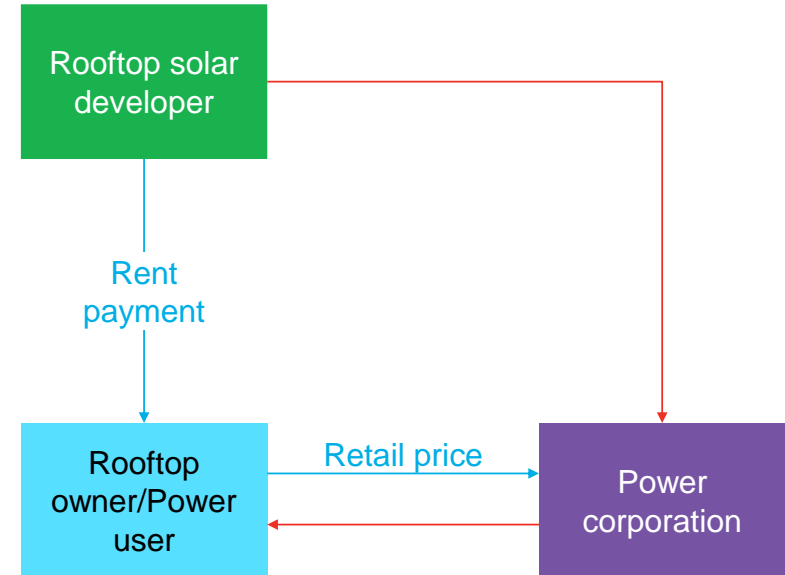
Source: BloombergNEF, EVN

屋根上太陽光のビジネスモデル

Rooftop rental model



Direct power purchase agreement model



Source: BloombergNEF, USAID

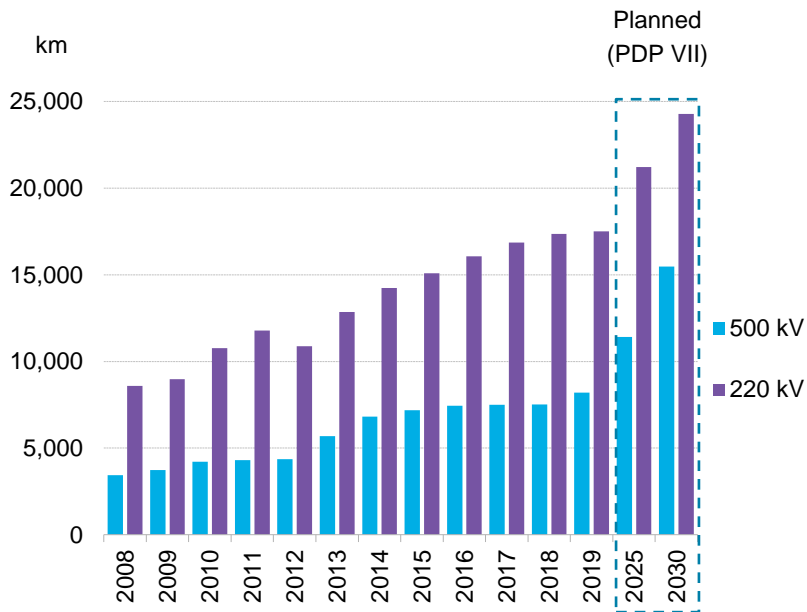
ベトナムの電力市場改革ロードマップ



Source: BloombergNEF, the Government of Vietnam

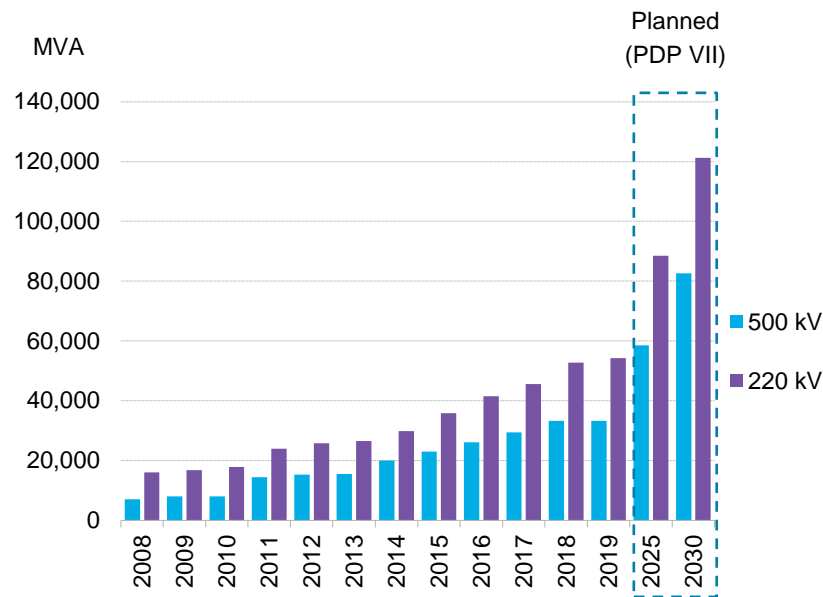
系統インフラ増強計画

Transmission lines development



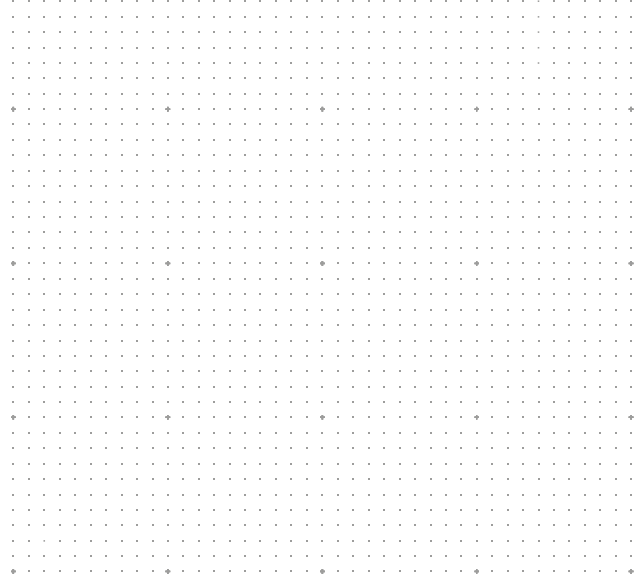
Source: BloombergNEF, National Power Transmission Corporation

Transformers development



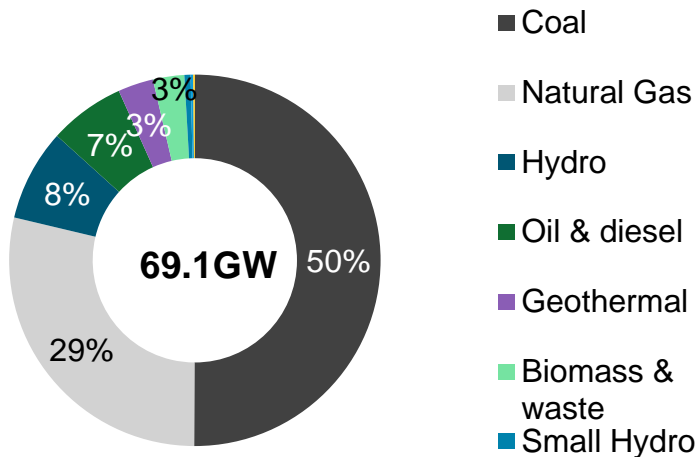
Source: BloombergNEF, National Power Transmission Corporation

インドネシア



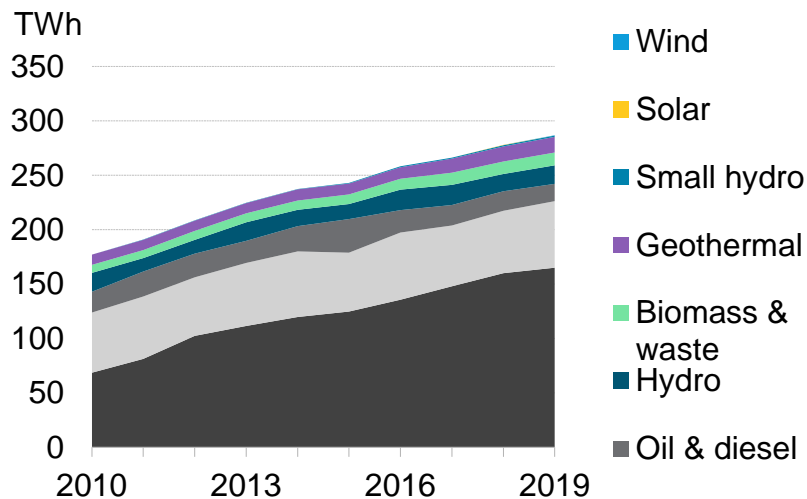
設備容量と電源構成

Installed power generation capacity in Indonesia, 2019



Source: Ministry of Energy and Mineral Resources, Indonesia, BloombergNEF

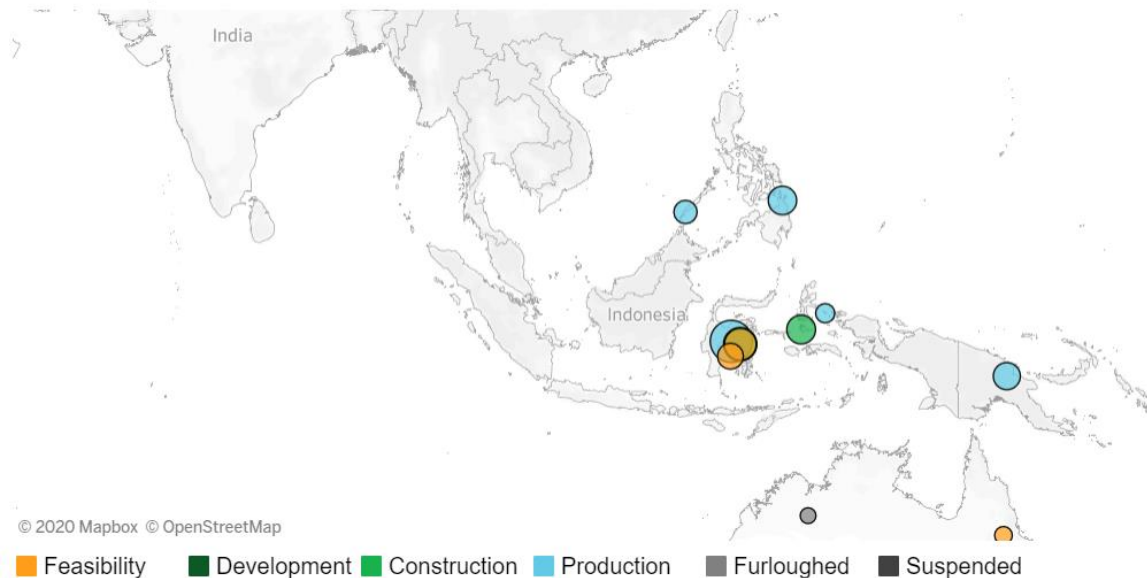
Electricity generation in Indonesia



Source: Ministry of Energy and Mineral Resources, Indonesia, BloombergNEF

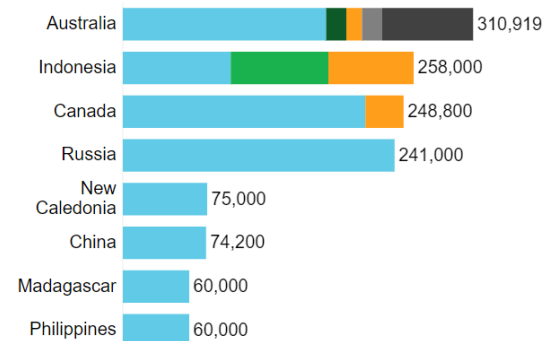
ニッケル産業

Mines map (Metric tons contained metal)



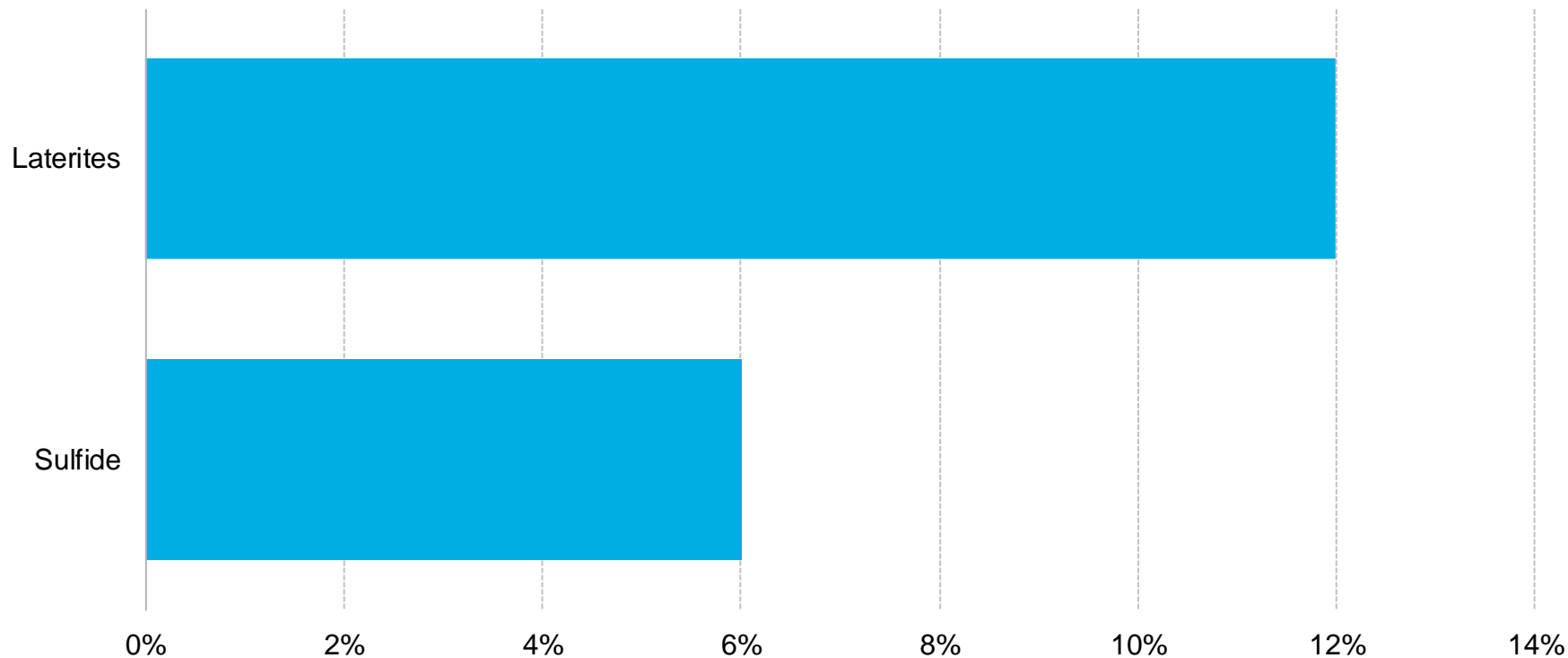
Source: BloombergNEF

ニッケル採掘量（予定量含む、トン）



Source: BloombergNEF

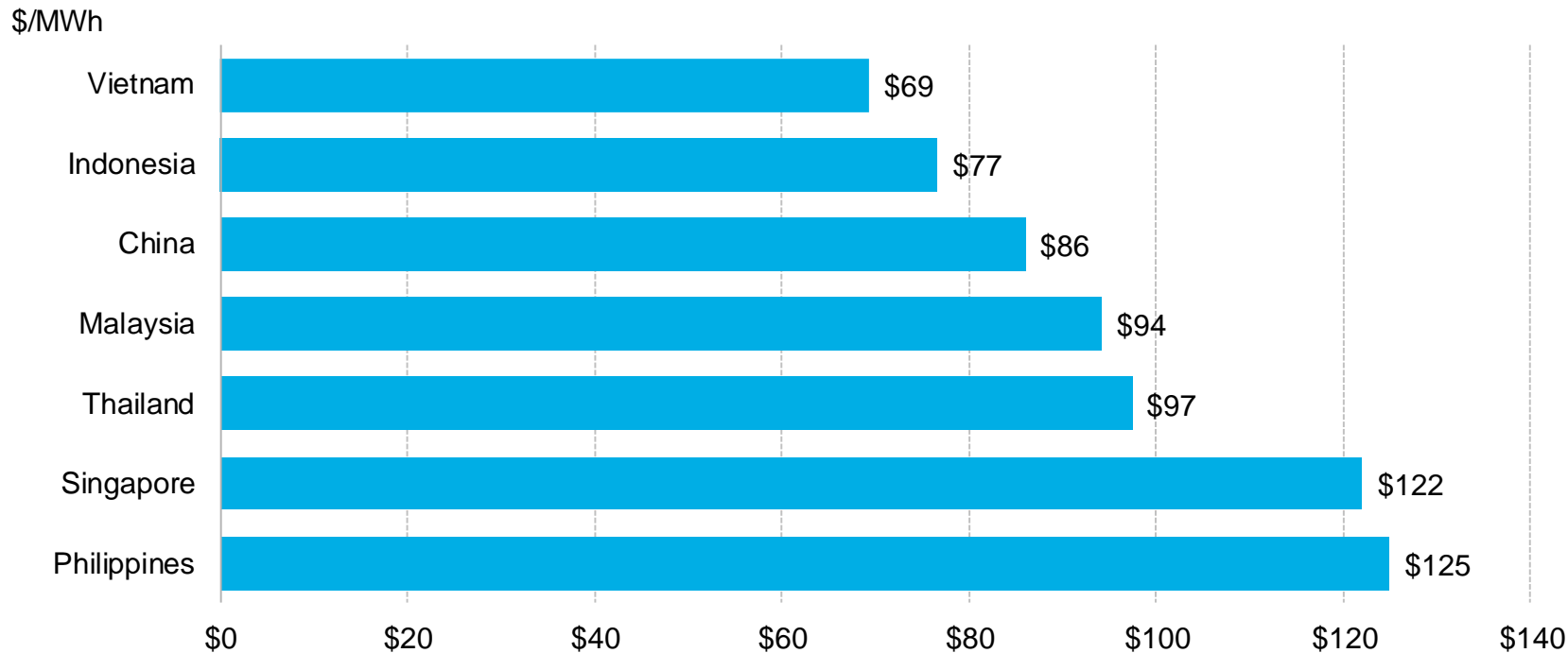
ニッケル生産における電気代比率



Source: BloombergNEF, S&P Global Market Intelligence Note: data as of 2017

産業用電気料金, 2018

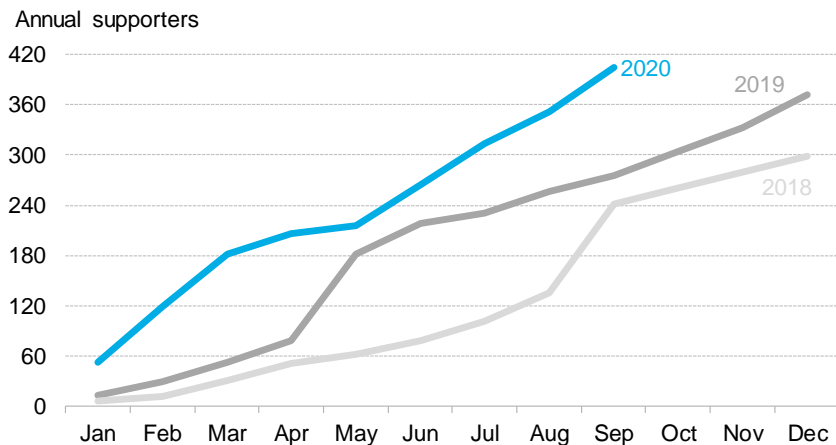
インドネシアは最も安い電気料金の国の一つ



Source: BloombergNEF

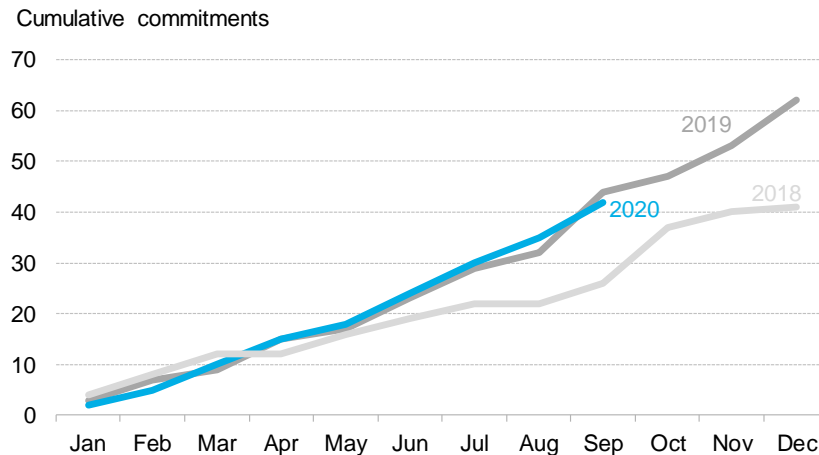
企業の再エネ調達需要増加 ネットゼロカーボン目標を掲げる企業も

TCFD



Source: TCFD

RE100



Source: Climate Group

サプライチェーンへのエンゲージメント

PRESS RELEASE

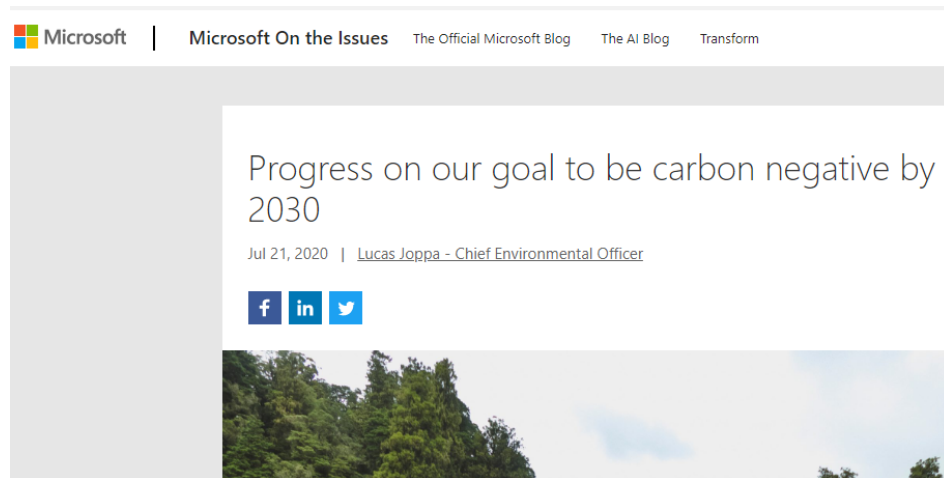
July 21, 2020

Apple commits to be 100 percent carbon neutral for its supply chain and products by 2030

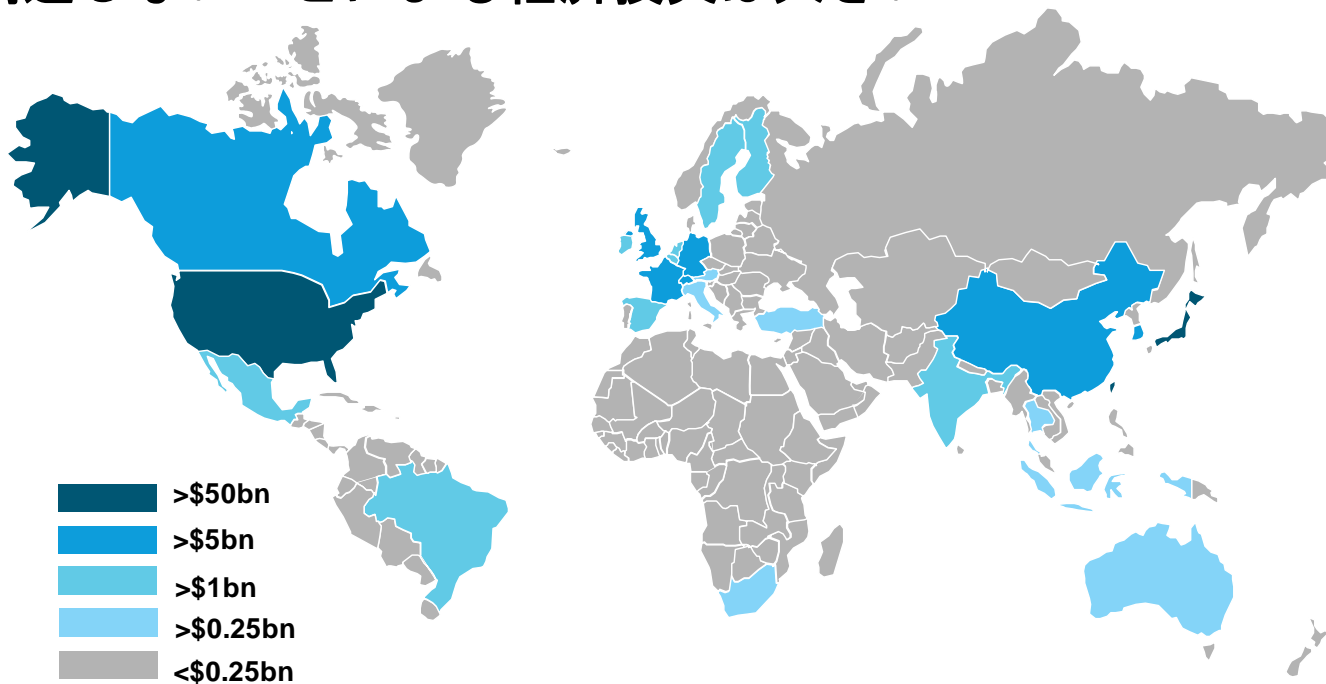


Already carbon neutral today for corporate emissions worldwide, the company plans to bring its entire carbon footprint to net zero 20 years sooner than IPCC targets

Source: Apple, Microsoft



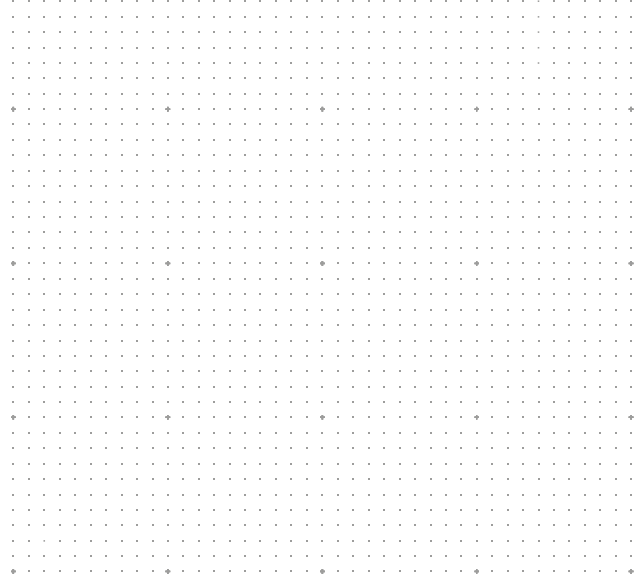
アジアはサプライチェーンのハブ 再エネ調達しないことによる経済損失は大きい



Source: BloombergNEF, Bloomberg Terminal

Note: Chart is based on data available on Bloomberg's SPLC function, and does not necessarily represent the entire supply chain for this group of selected companies. Sustainability focused companies are member of RE100, CDP Supply Chain Initiative, SBTi and the Responsible Business Alliance.

循環型經濟

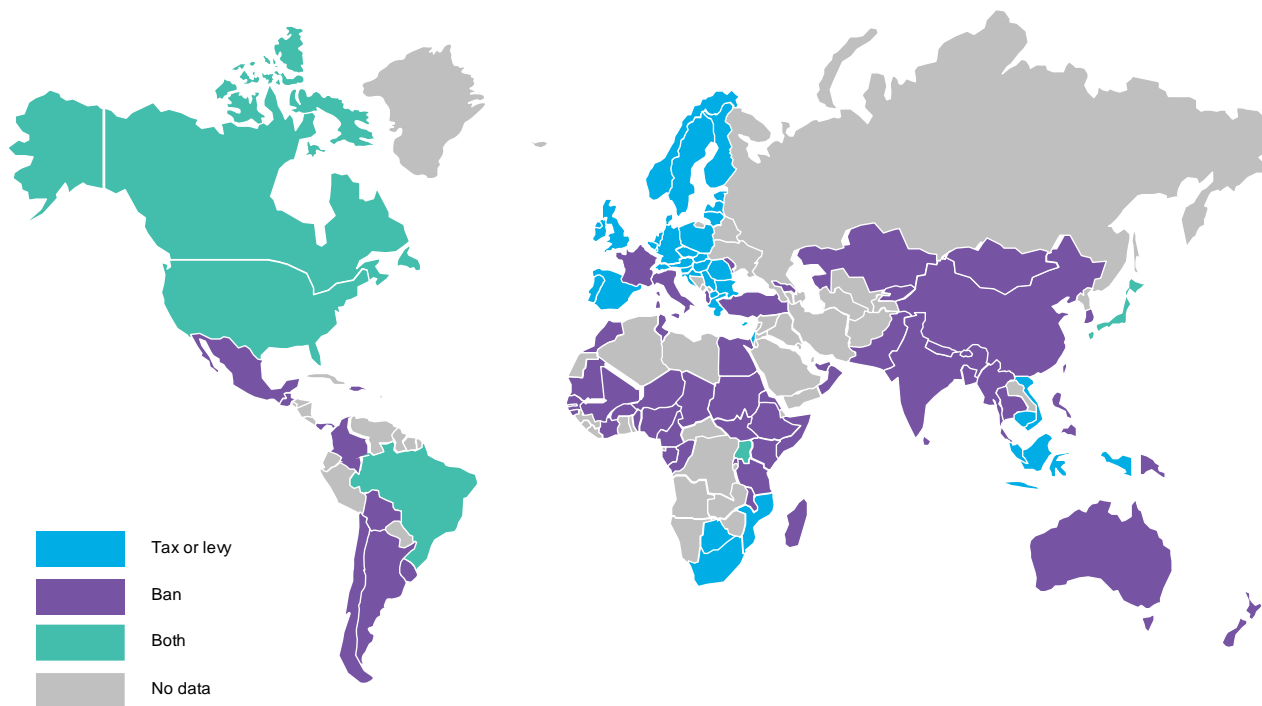


東南アジア諸国の循環型経済に向けた潜在的ニーズ

輸出対象技術	対象国	理由
廃棄物発電	インドネシア シンガポール	目標値と投資目標があるため
リサイクル技術	マレーシア フィリピン	目標値達成のため
廃棄物分別収集技術	シンガポール	食品廃棄物の分別が必要 雇用創出
バイオプラスチック	東南アジア諸国全体	プラごみの輸入禁止 リサイクル用のプラスチックごみ不足 大企業の東南アジア拠点ではバイオプラスチックの目標値

Source: BloombergNEF

各国はサーキュラーエコノミーを構築する政策を立ち上げている



Source: BloombergNEF

企業のプラスチック削減への取り組み

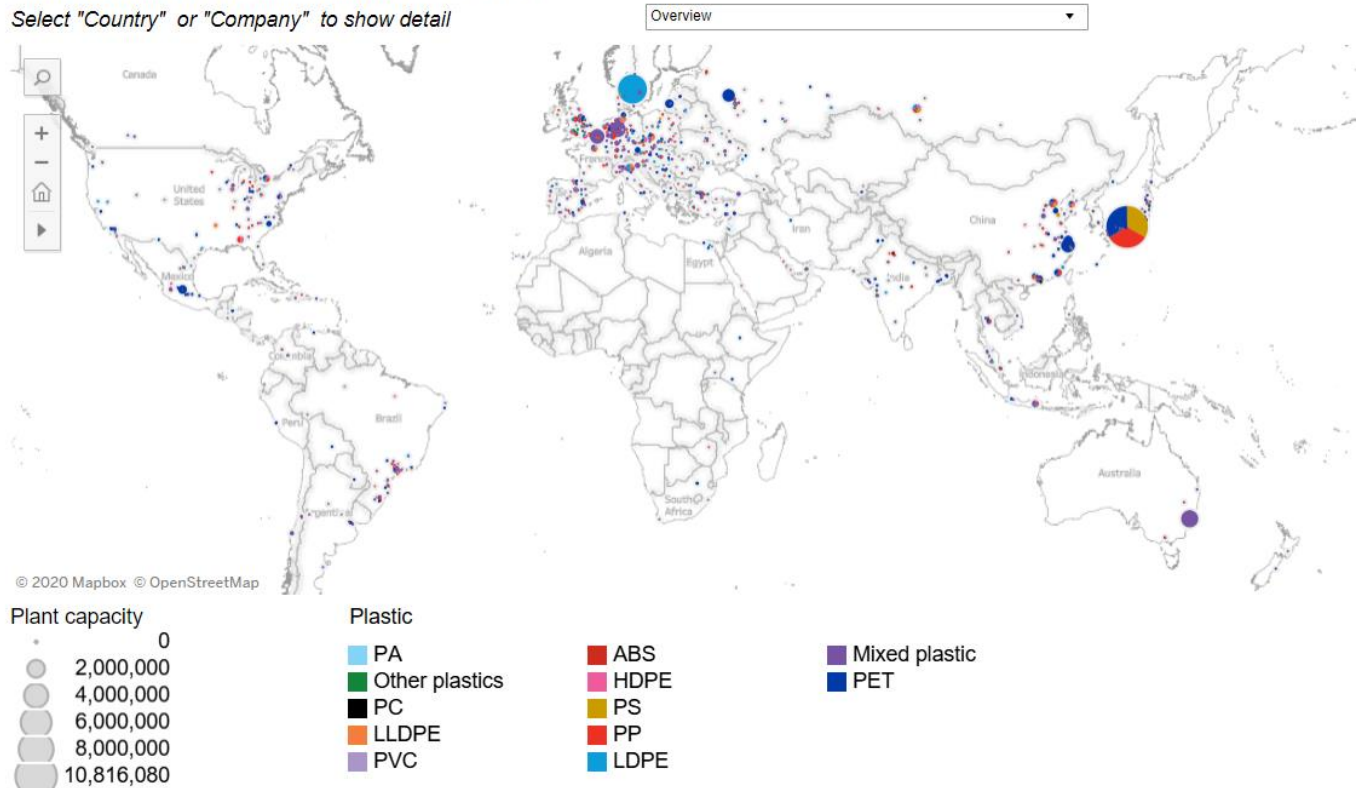


Source: BloombergNEF, company announcements

プラスチックリサイクル施設拠点

Plastic recycling plants in operation (metric ton/year)

Select "Country" or "Company" to show detail



Source: BloombergNEF

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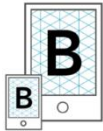
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