

世界のエネルギー市場の転換と石炭

石炭火力発電輸出への公的支援に関する有識者
ファクト検討会

黒崎 美穂

April 1, 2020



BloombergNEF

ローカルとグローバルの 両方の観点から

250

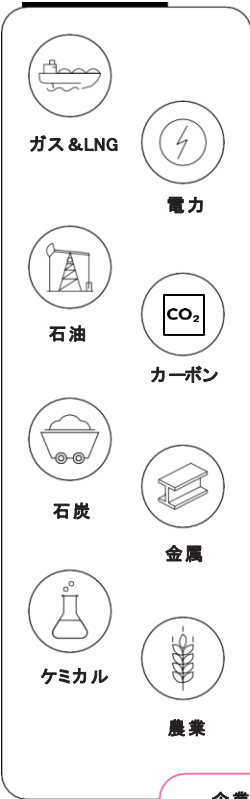
BNEFプロフェッショナルは
世界17拠点に配属されている

* ブルームバーグL.P.では世界176拠点、
従業員は19000人

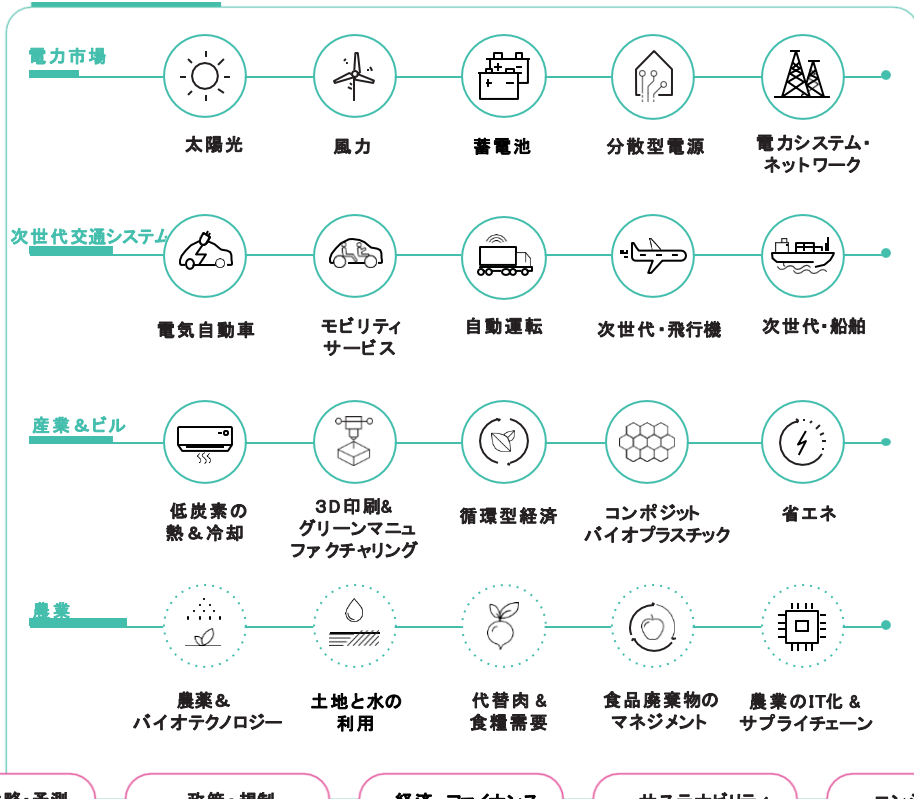


BNEF Coverage

コモディティ



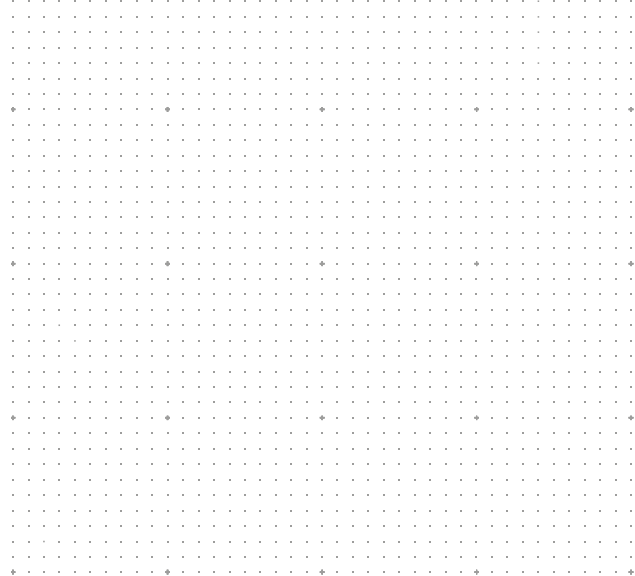
セクター



最先端技術

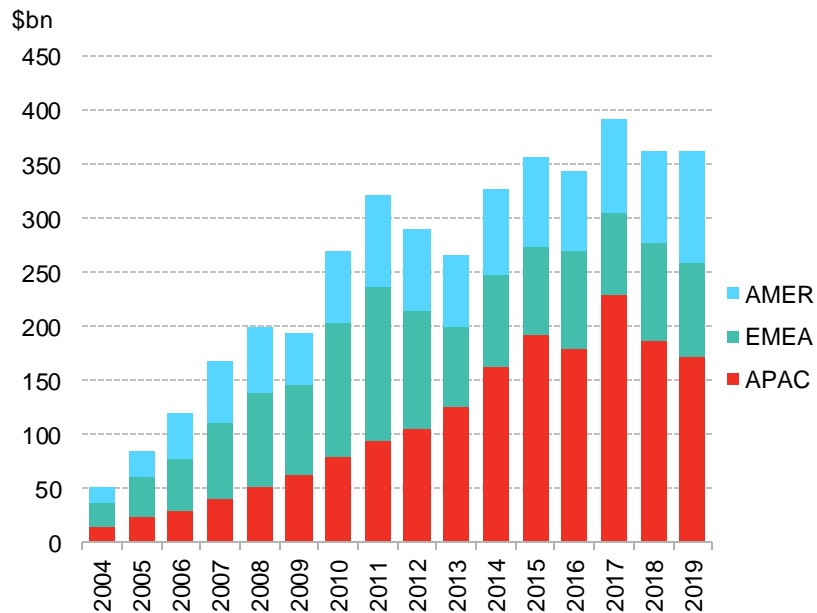


クリーンエネルギー



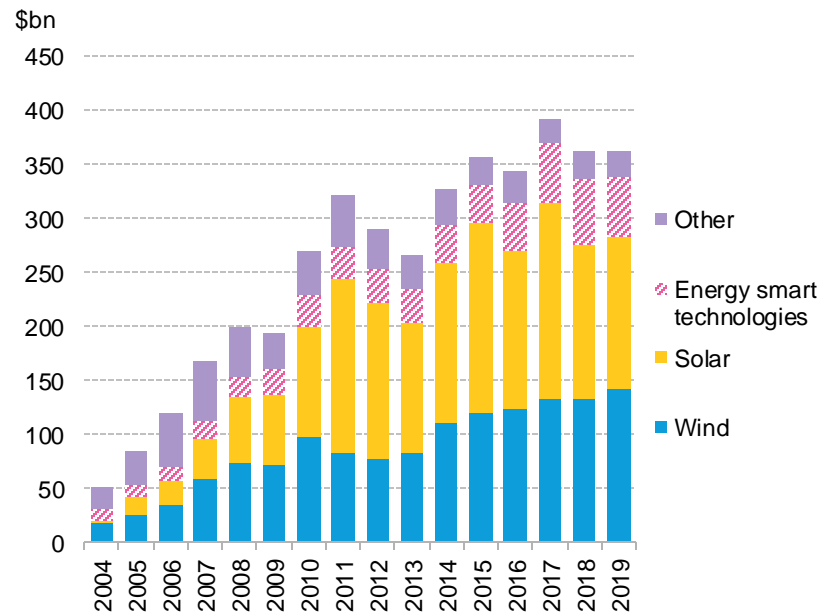
クリーンエネルギー グリーンエネルギー投資

Clean energy investments by region



Source: BloombergNEF

Clean energy investments by technology

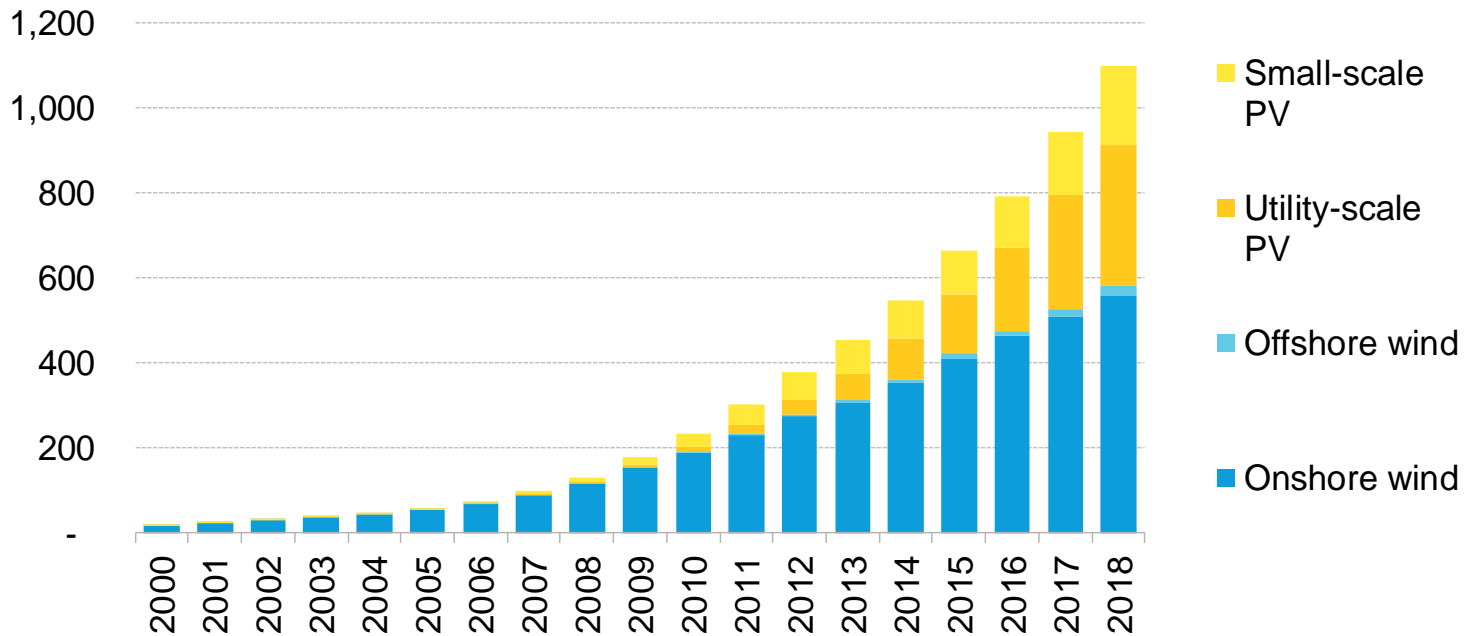


Source: BloombergNEF

風力、太陽光導入量が2018年にテラワットを超える

Global wind and solar installations

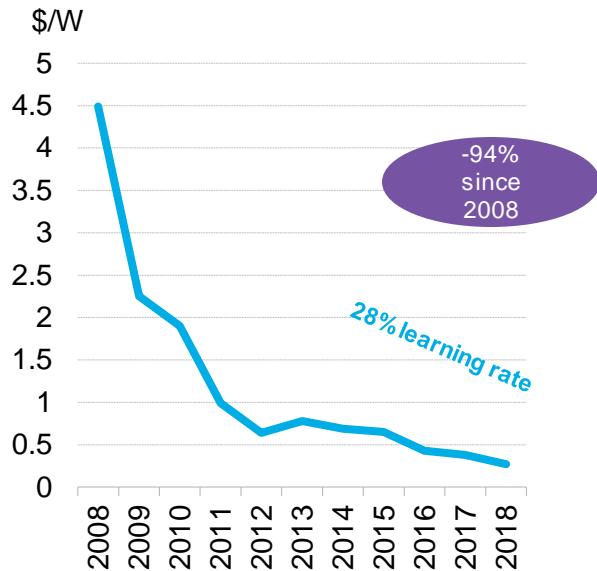
Cumulative GW



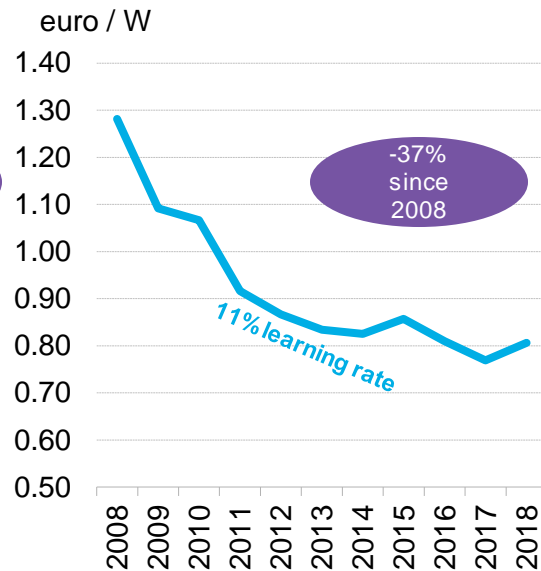
Source: BloombergNEF

技術の革新によりコストが低減

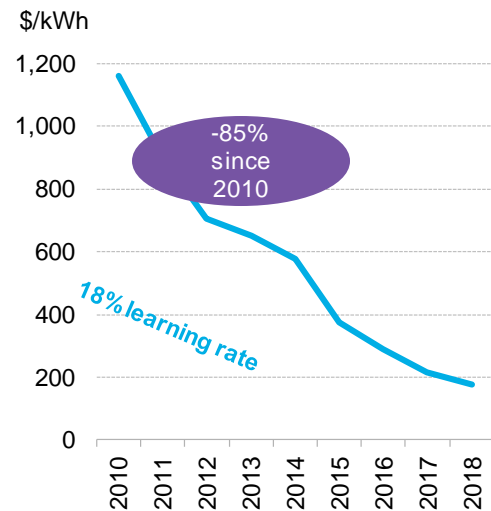
Solar PV module prices



Onshore wind turbine prices

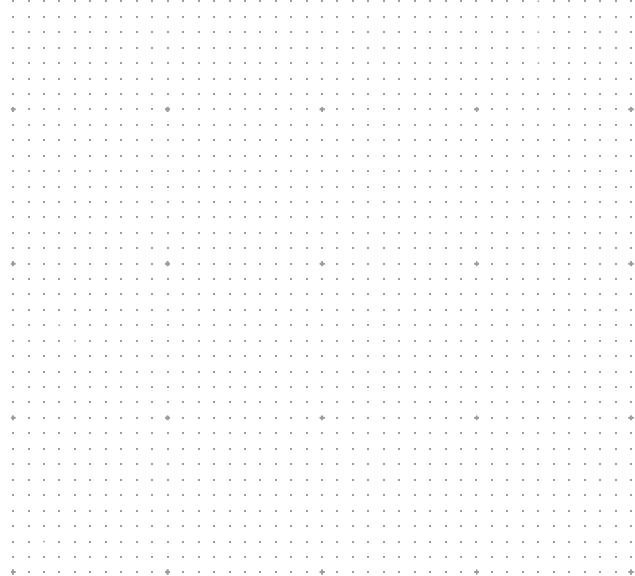


Lithium-ion battery prices

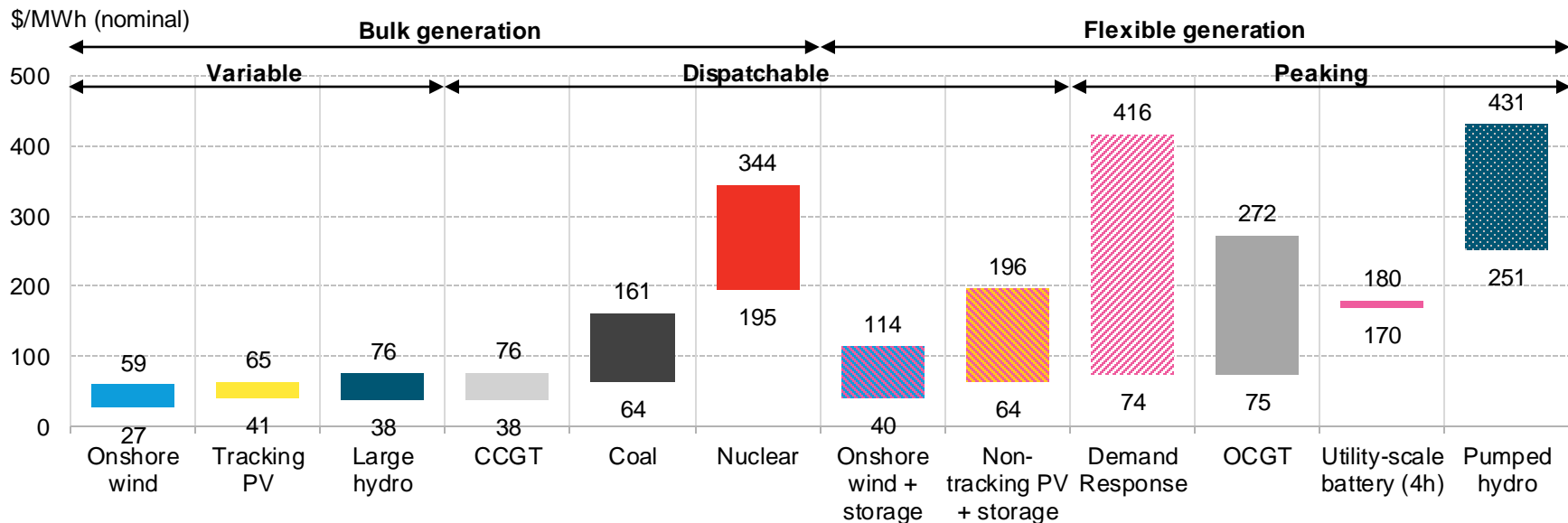


Source: BloombergNEF

電力コスト



米国で風力と太陽光がガスよりも安い電源 Q1 2019

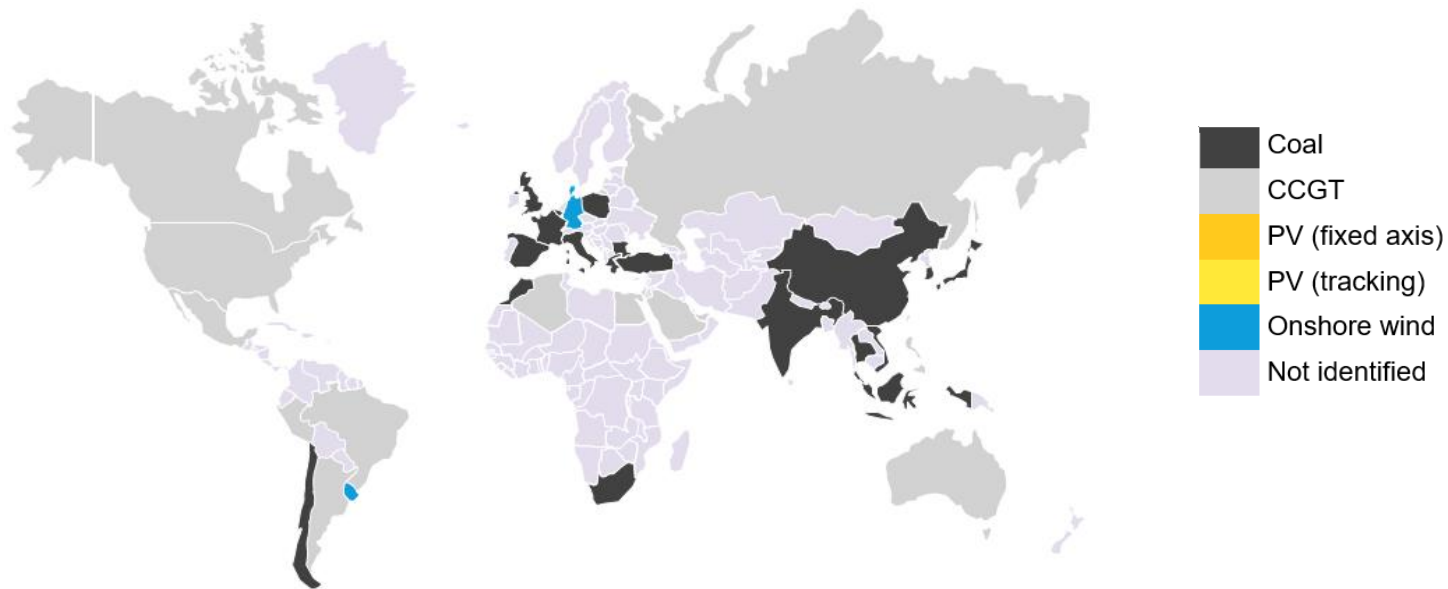


Source: BloombergNEF

2014年の世界： 化石燃料の発電所が一番安い

Most competitive source of new bulk generation

2014

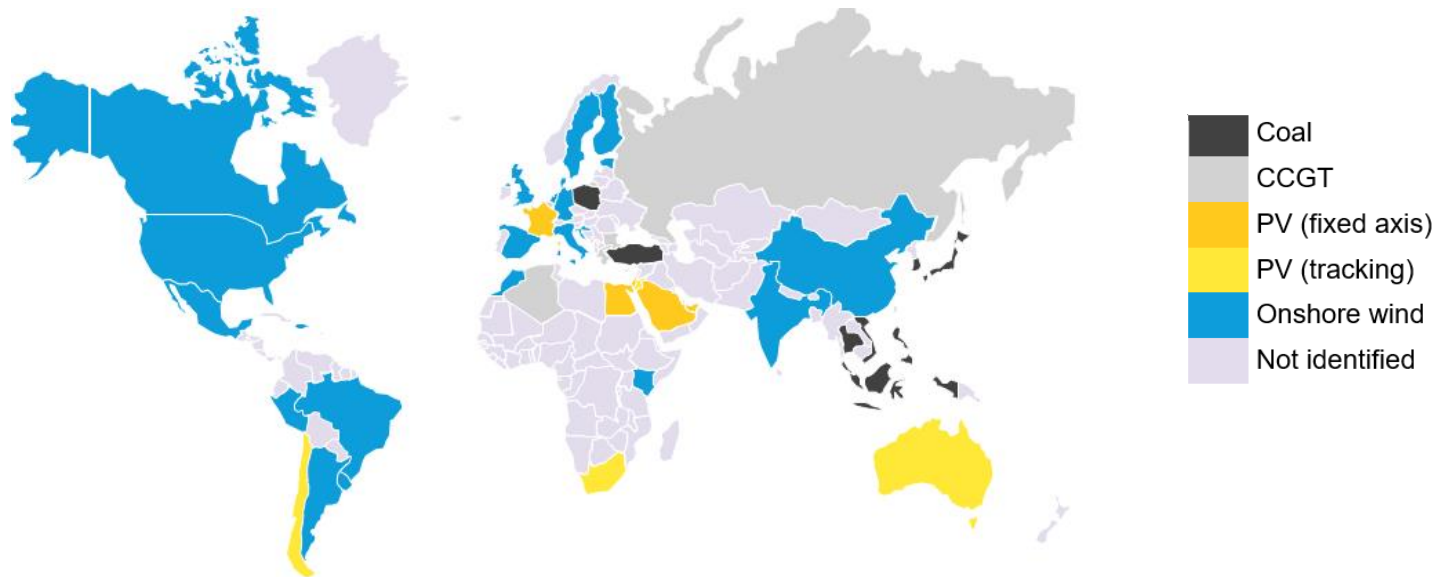


Source: BloombergNEF. Note: Reflective of the cheapest benchmark project for each technology and market

電力コスト 2019年の世界： 再エネが最も安い国が世界の2/3

Most competitive source of new bulk generation

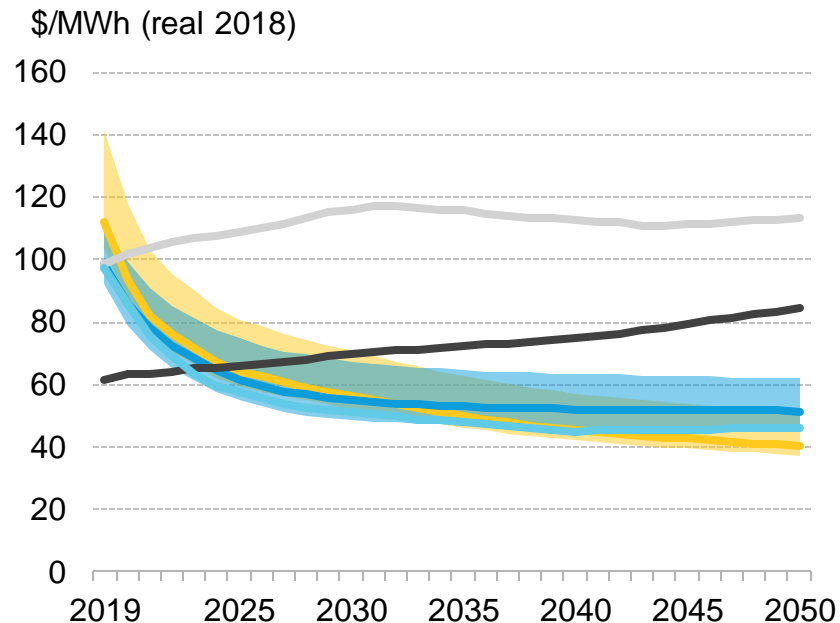
2019



Source: BloombergNEF. Note: Reflective of the cheapest benchmark project for each technology and market

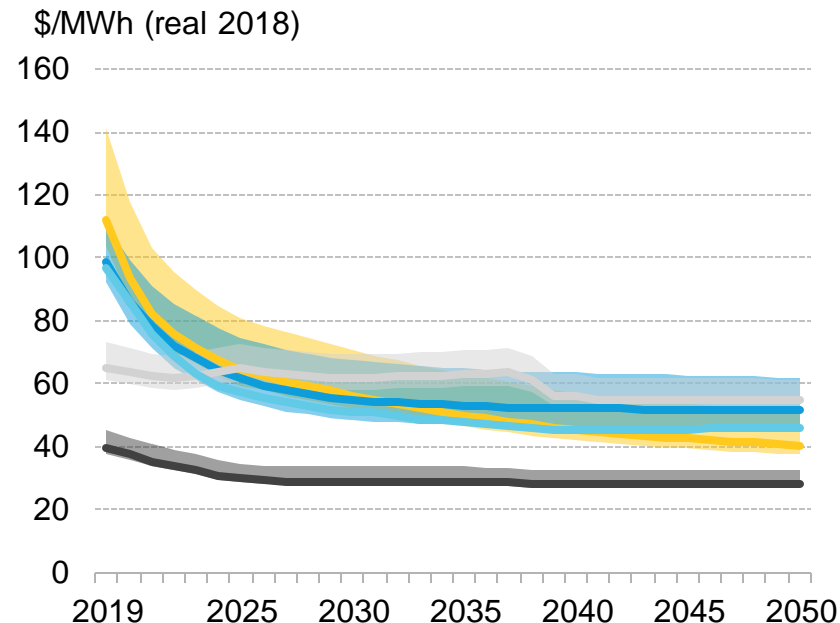
日本: 平準化発電コスト

再エネの新設 vs 化石燃料の新設



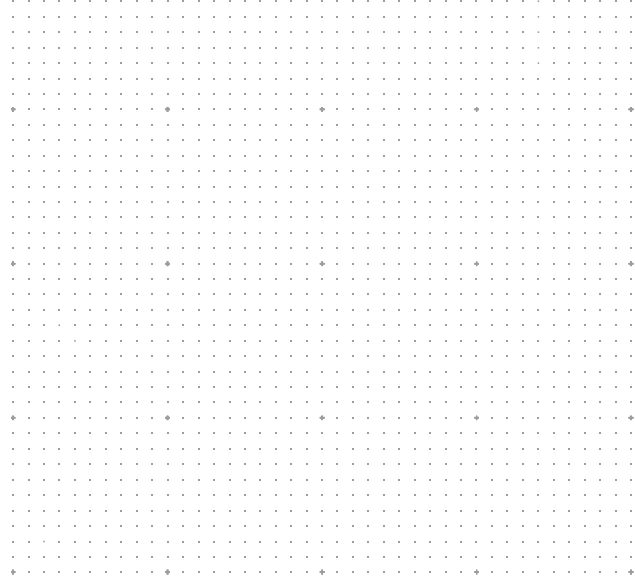
Source: BloombergNEF

再エネの新設 vs 化石燃料の既設

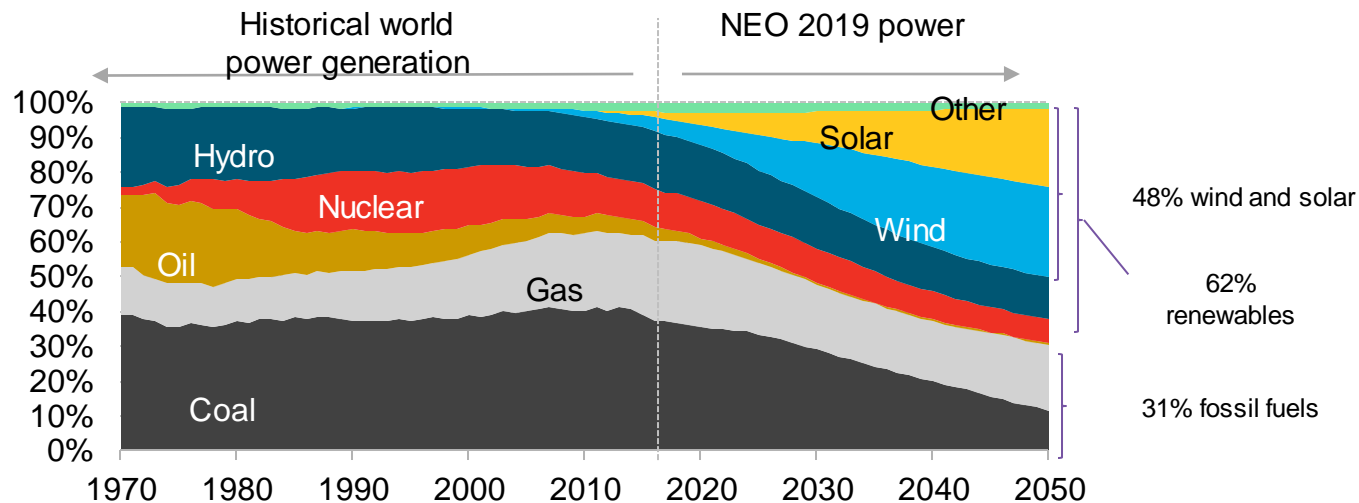


Source: BloombergNEF

長期エネルギー見通し

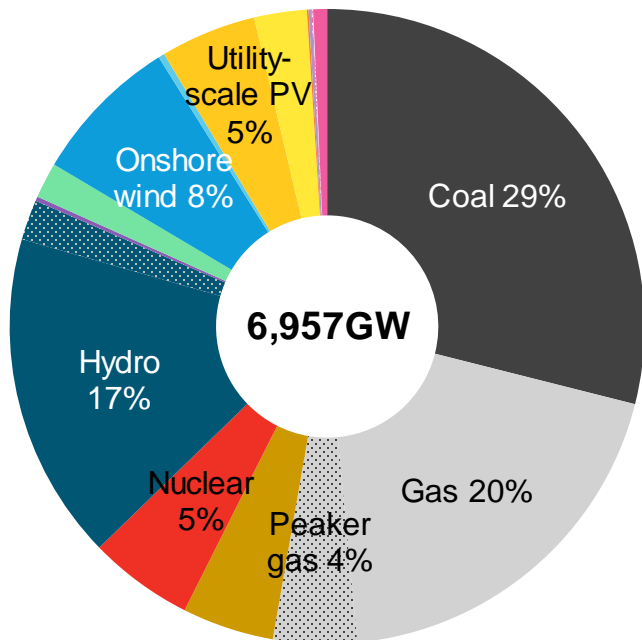


グローバル: 2050年に7割が非化石電源

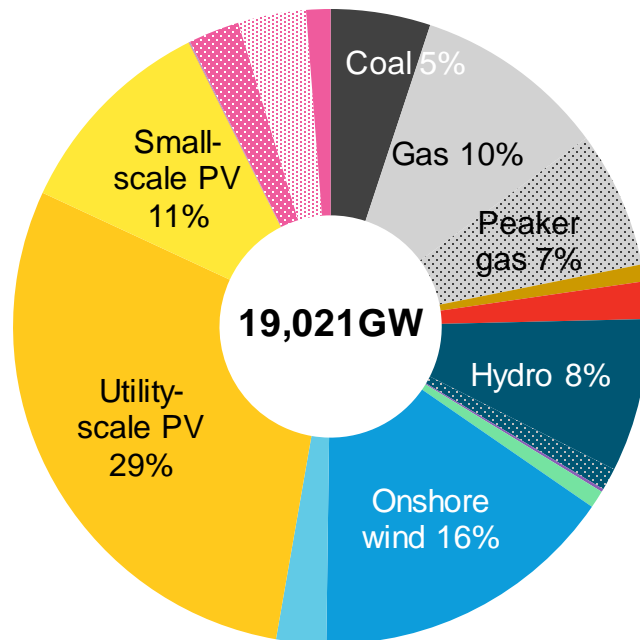


グローバル： 新設容量の77%は再生可能エネルギー

Total installed capacity, 2018

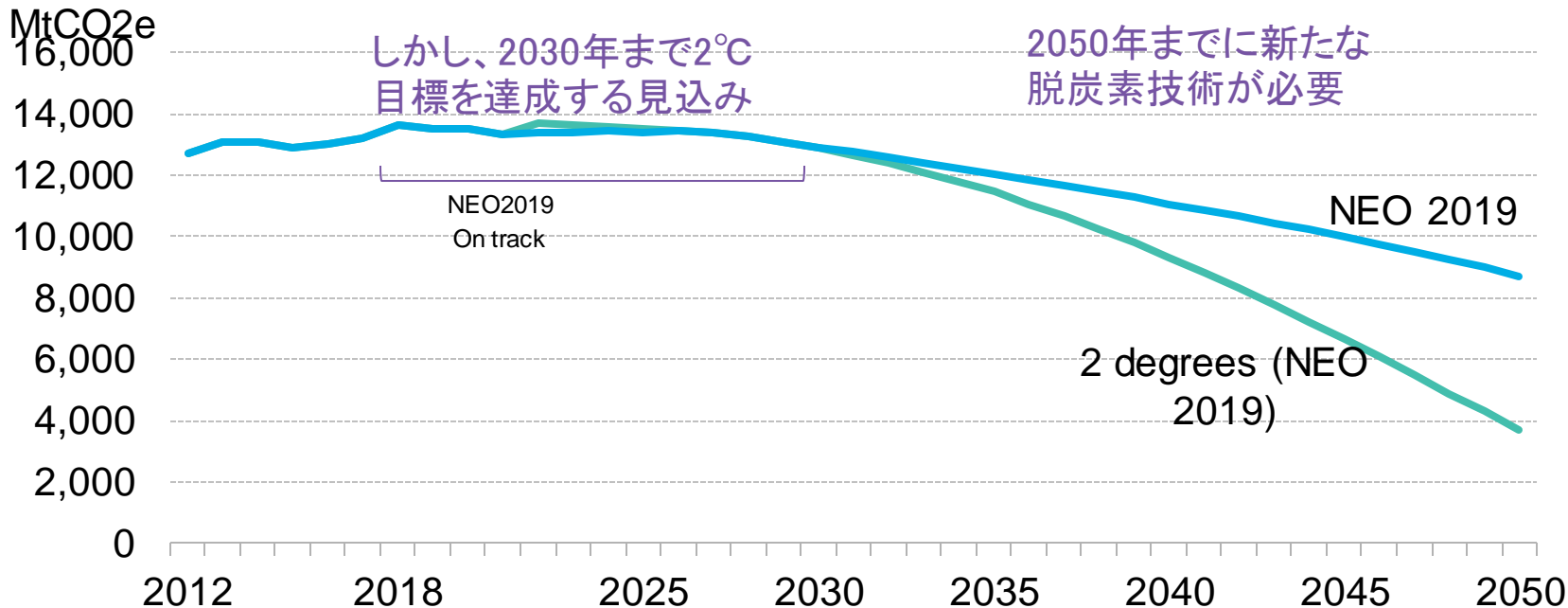


Total installed capacity, 2050

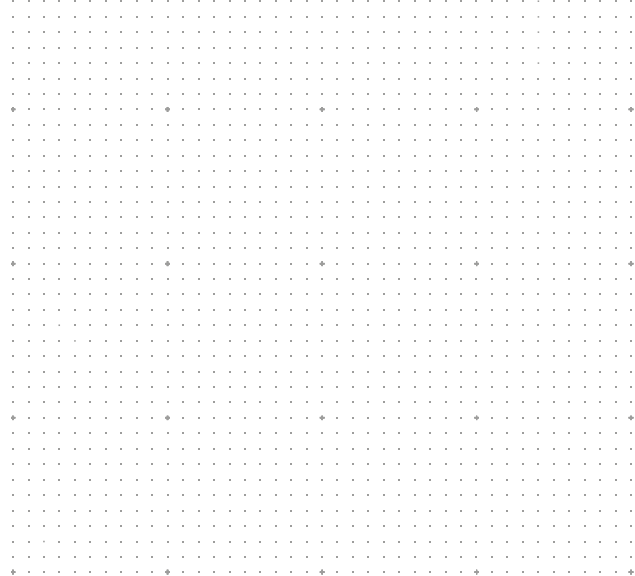


2050年の電源構成の半分が風力太陽光でも 2度目標には届かず

Global power sector emissions

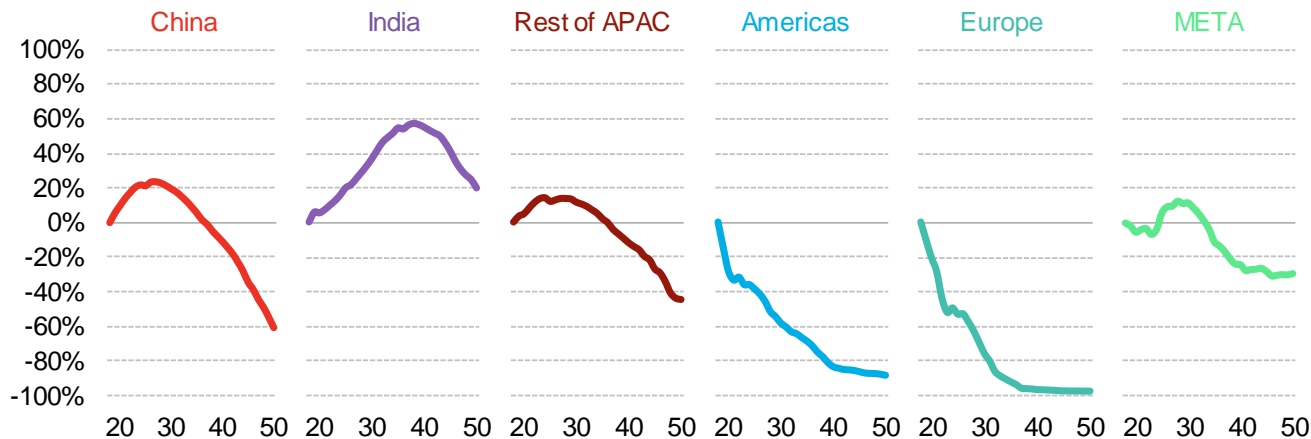


世界の石炭火力発電



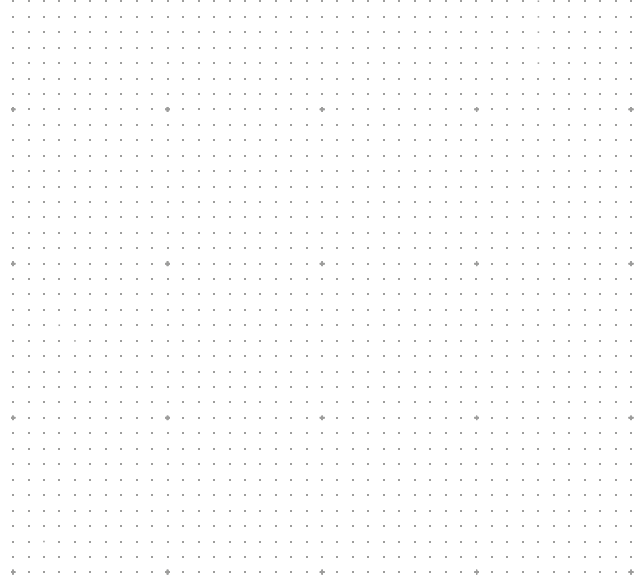
石炭は安価な再エネと調整力のあるガス火力に置き換わる

Regional growth profiles for power sector coal consumption, rebased to zero in 2018



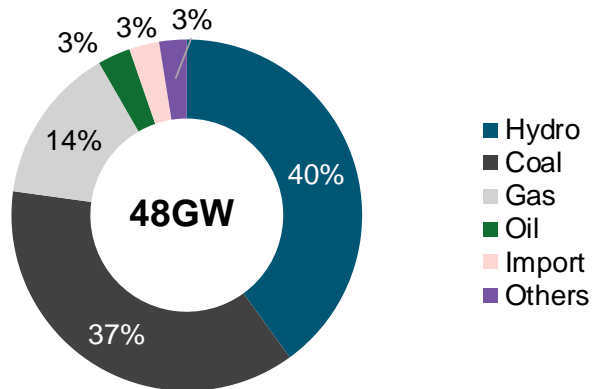
Source: BloombergNEF

東南アジアの石炭火力 発電

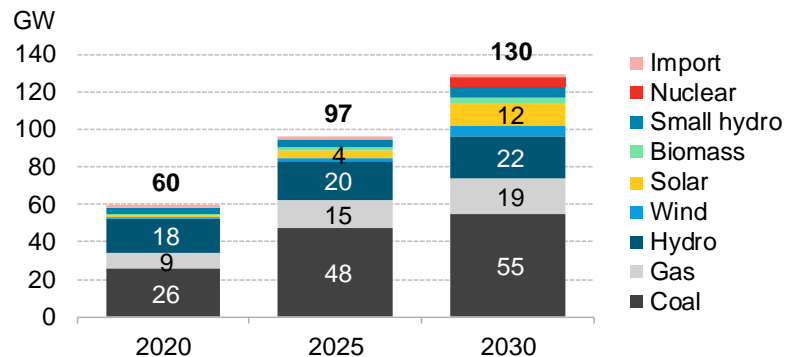


ベトナム エネルギー計画

設備容量、2018年



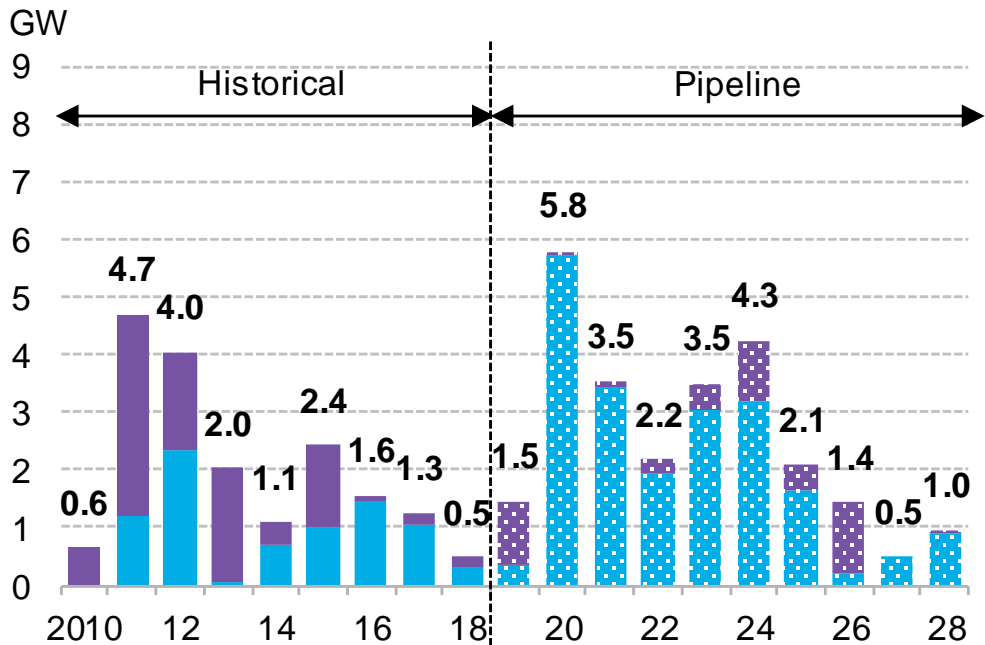
政府のエネルギー計画 (PDP 7)



Source: National Load Dispatch Centre, BloombergNEF

Source: Ministry of Industry and Trade (MOIT), BloombergNEF

インドネシアでの稼働済みと計画中石炭火力発電所—民間が主流



2010-18



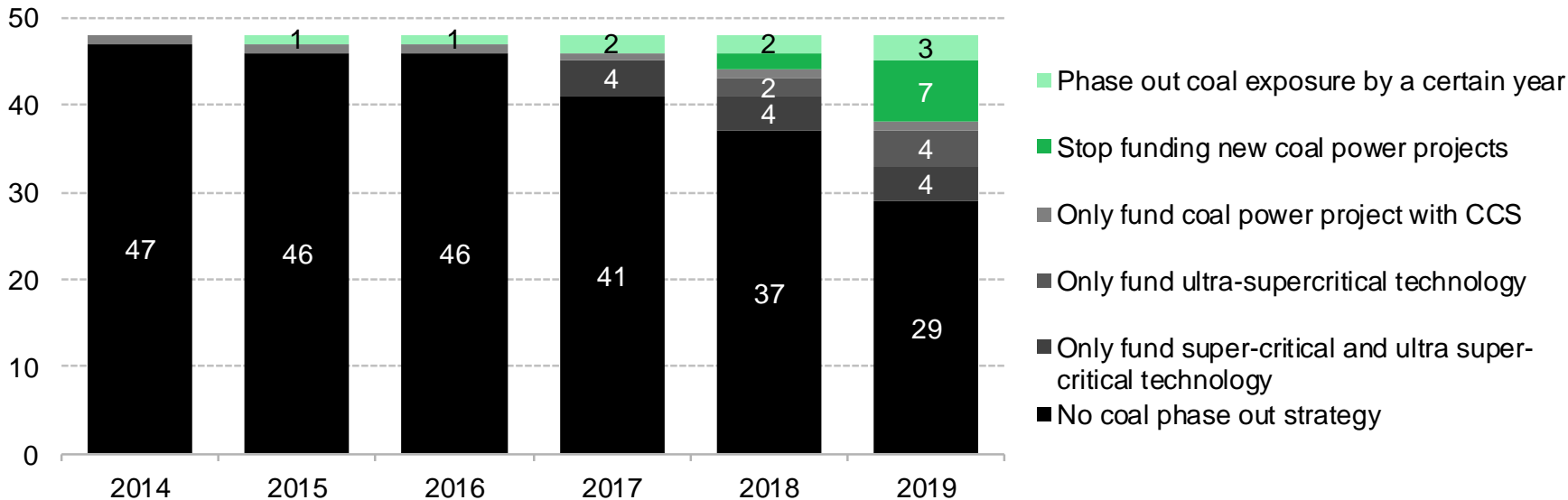
2019-28



Source: BloombergNEF, RUPTL 2019-28, PT Perusahaan Listrik Negara annual report. Private sector projects also include projects developed under the independent power producer route by subsidiaries of PT PLN

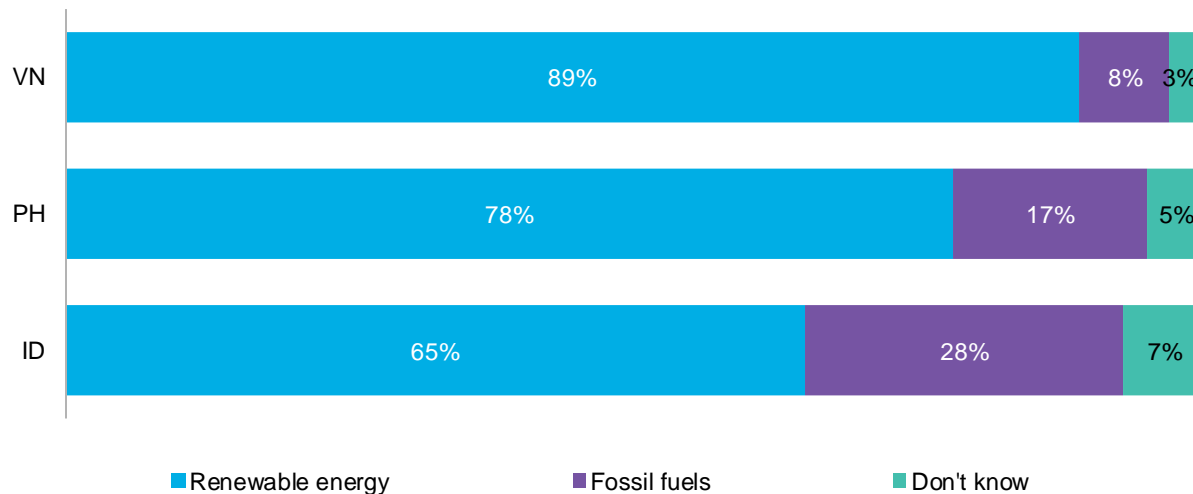
インドネシアとベトナムへの資金提供者は石炭火力ファイナンスのフェーズアウトを進めている

Number of lenders



Source: BloombergNEF, official press releases from banks. Note: CCS – carbon capture and storage.

世論調査：インドネシア、フィリピン、ベトナムの市民が必要とする再エネ



- 送電網の整備も課題

Source: E3G. Note: ID- Indonesia, PH- Philippines, VN- Vietnam.

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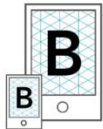
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