

The role of private investors in the transition towards a low emission economy: lock-in risks for emission-intensive investments

Destination 2050: developing long term climate strategy for Poland

Aki Kachi

Warsaw, 26 June 2019

- » *(a) Holding the increase in the global average temperature to well below 2 °C above pre-industrial levels and to pursue efforts to limit the temperature increase to 1.5 °C above pre-industrial levels (...);*
- » *(b) Increasing the ability to adapt to the adverse impacts of climate change and foster climate resilience and low greenhouse gas emissions development, in a manner that does not threaten food production;*
- » **(c) Making finance flows consistent with a pathway towards low greenhouse gas emissions and climate-resilient development.**

Mark Carney, Tragedy on the Horizon



Speech by Mark Carney, Governor, given at Lloyd's of London on 29 September 2015, *Bank of England 2015*

- » **Physical risks:** the impacts today on insurance liabilities and the value of financial assets that arise from climate- and weather-related events, such as floods and storms that damage property or disrupt trade;
- » **Liability risks:** the impacts that could arise tomorrow if parties who have suffered loss or damage from the effects of climate change seek compensation from those they hold responsible. Such claims could come decades in the future, but have the potential to hit carbon extractors and emitters – and, if they have liability cover, their insurers – the hardest;
- » **Transition risks:** the financial risks which could result from the process of adjustment towards a lower-carbon economy. Changes in policy, technology and physical risks could prompt a reassessment of the value of a large range of assets as costs and opportunities become apparent.

≡ BUSINESS
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DEUTSCHLAND

INTERNATIONAL

Nearly half of US coal is produced by companies that have declared bankruptcy – and Trump won't fix that

Dana Varinsky

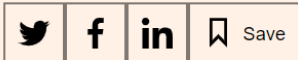
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Transition Risk 2

FINANCIAL TIMES

GE and Siemens: power pioneers flying too far from the sun

The two industrial titans are struggling to cope with the disruption to their business models from wind and solar



Ed Crooks in New York and Patrick McGee in Frankfurt NOVEMBER 12, 2017



Business Markets World Politics TV Mc

BUSINESS NEWS JUNE 18, 2019 / 3:28 PM / 6 DAYS AGO

Siemens to cut 2,700 jobs at gas and power unit

Bloomberg

Climate Changed

The World Will Get Half Its Power From Wind, Solar by 2050

By [Millicent Dent](#) and [Chris Martin](#)

June 18, 2019, 1:00 PM GMT+2 Updated on June 18, 2019, 6:14 PM GMT+2

Transition Risk 3

EU CARBON PRICES RECOVER AS LEGISLATION TIGHTENS SUPPLY



Graph shows EU Allowance (EUA) carbon prices under EU Emissions Trading System.
Source: S&P Global Platts, European Energy Exchange

S&P Global
Platts

S&P Global Platts
Insight

Public and Private Initiatives

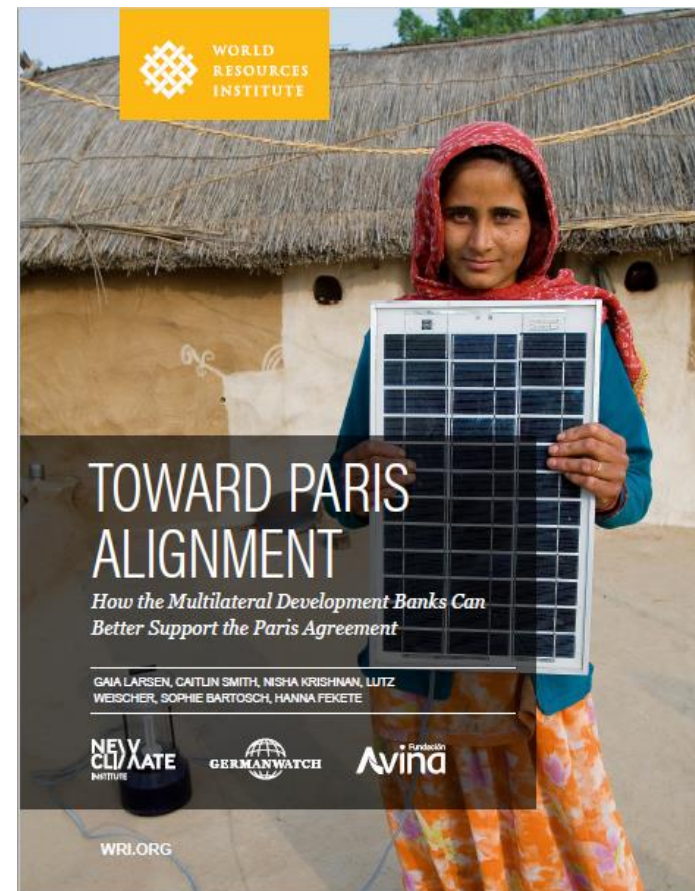
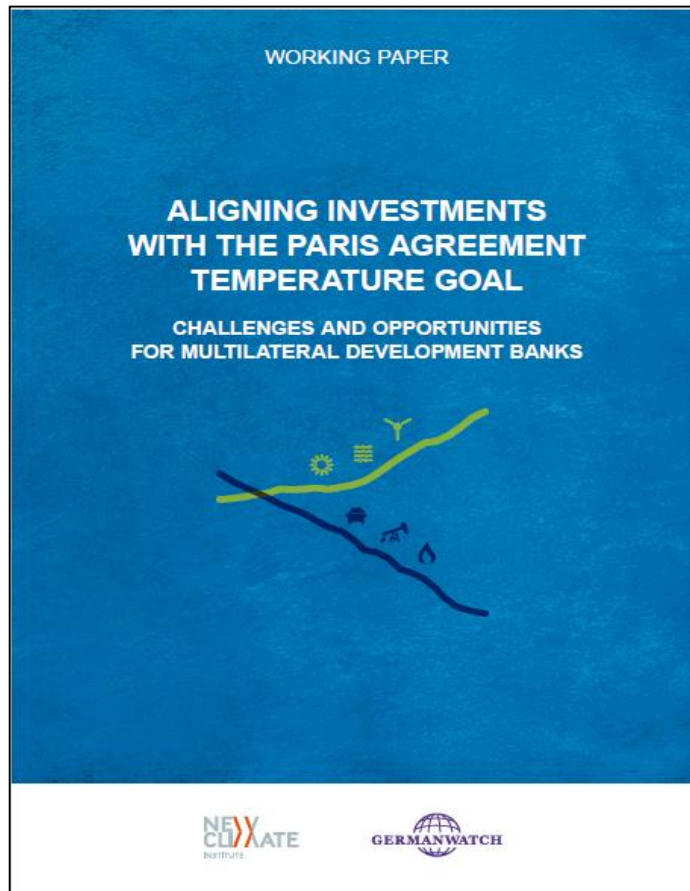


32 Trillion USD



**THE COALITION OF FINANCE MINISTERS
FOR CLIMATE ACTION**

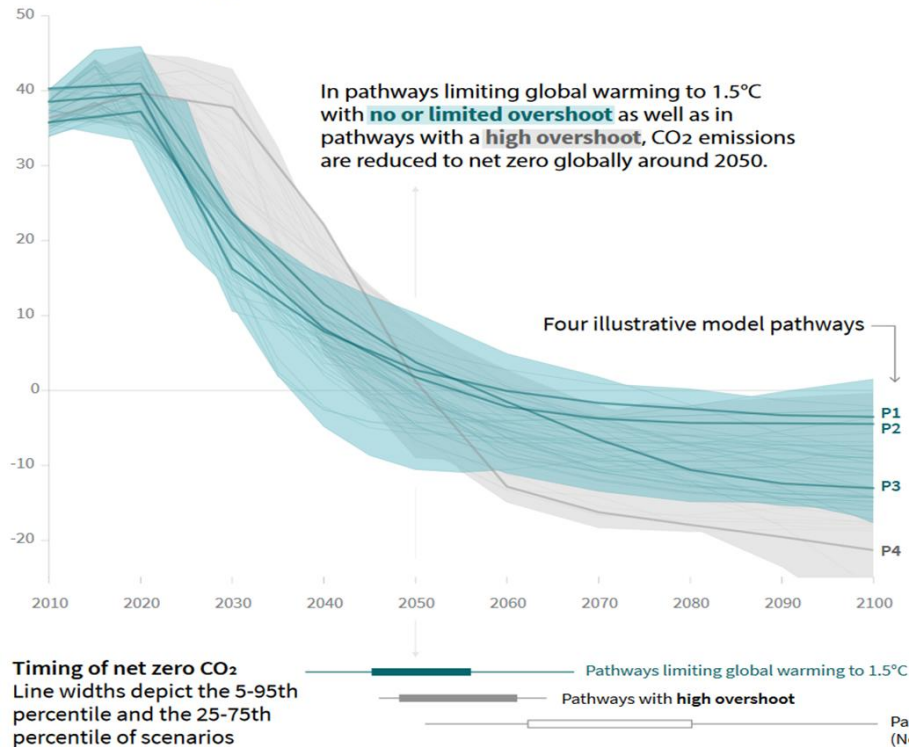




IPCC Special Report 1.5C

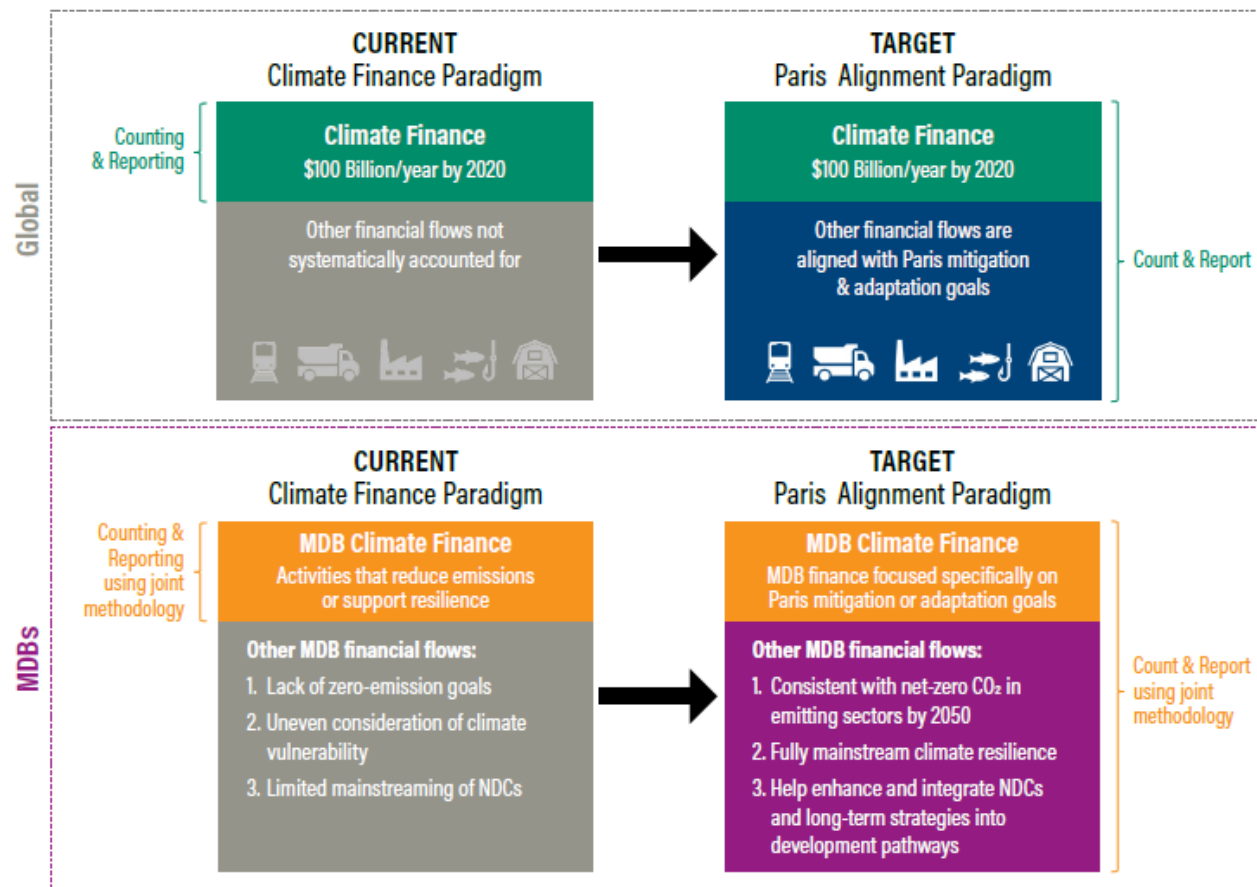
Global total net CO₂ emissions

Billion tonnes of CO₂/yr

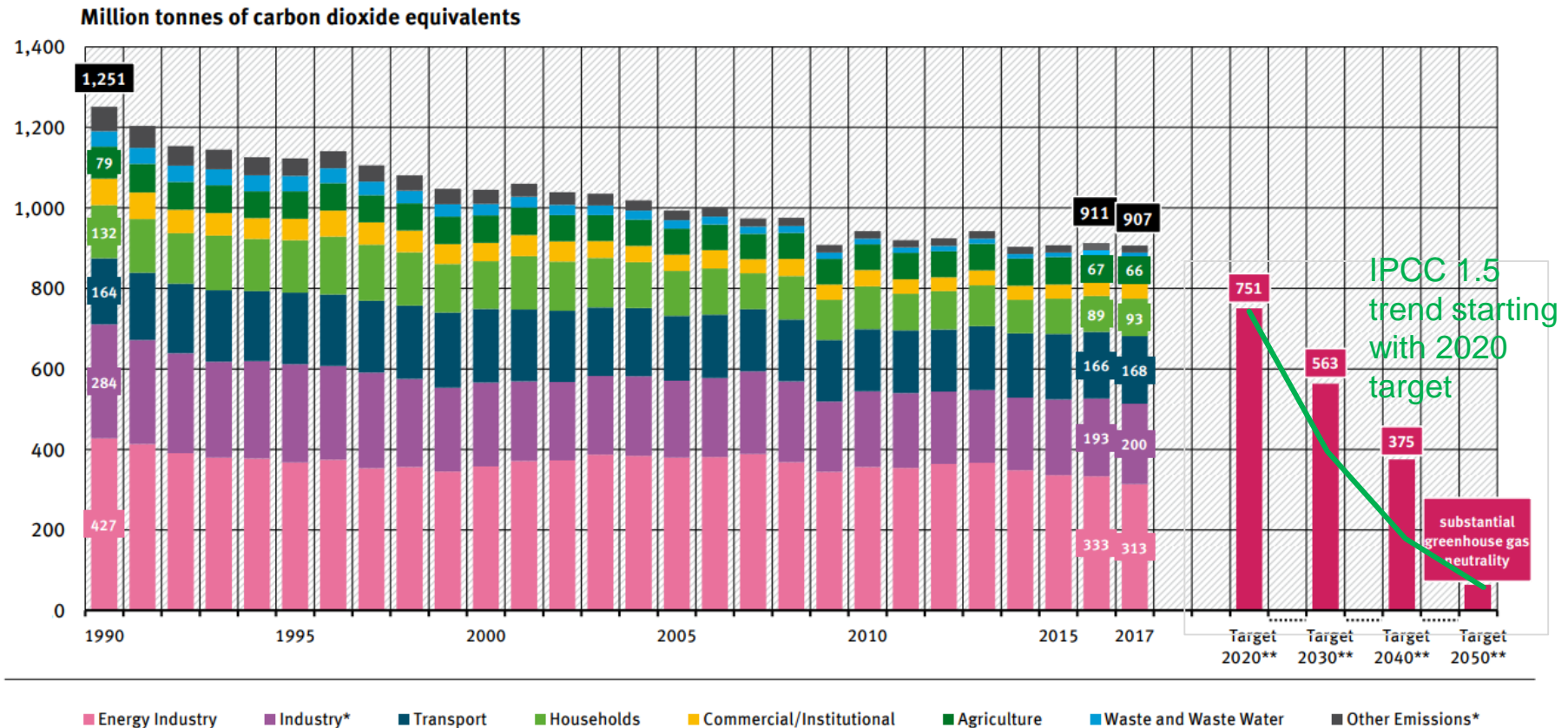


- » Global emissions must peak quickly
- » Global emissions need to become net-zero between 2045 and 2060
- » Energy sector needs to reach zero emissions around 2050
- » Complete decarbonization in every sector is not feasible
- » Global emissions need to keep falling between 2060 and 2100

Defining Paris alignment



Historical emissions and future targets of Germany

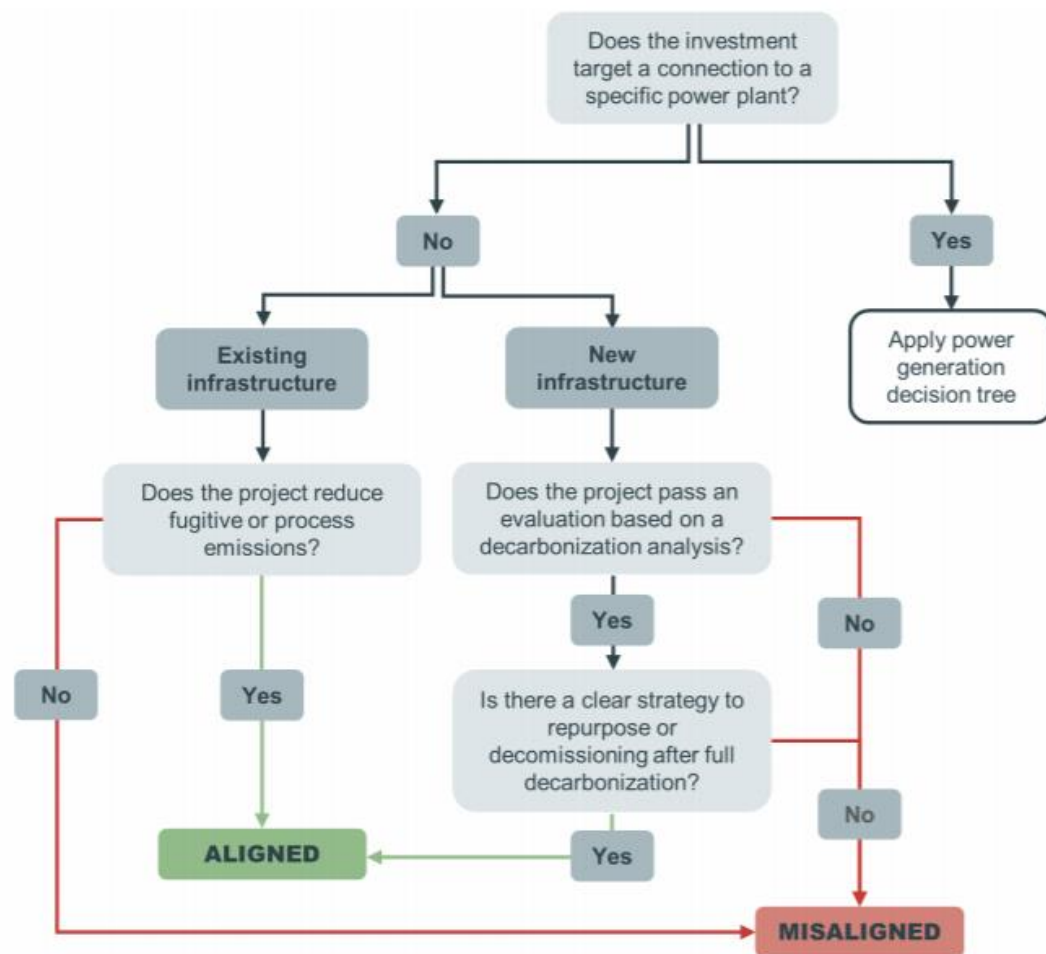


Sources: German Federal Environment Agency (2019), Höhne et al. (2019)

Positive and Negative Lists

PARIS-ALIGNED	CONDITIONAL	MISALIGNED
Fully aligned with Paris Agreement consistently across all scenarios	Aligned depending on conditions	Consistently Paris misaligned in all scenarios
<ul style="list-style-type: none"> • Solar energy • Wind energy • Small hydropower • Tidal, wave and ocean energy • System flexibility options (electricity energy storage, demand response, ...) 	<ul style="list-style-type: none"> • Energy transmission and distribution infrastructure • Geothermal²⁾ 	<ul style="list-style-type: none"> • Coal fired power plants with unabated emissions over their lifetime • Oil power plants • Coal mining • New upstream oil and gas exploration and production
	<ul style="list-style-type: none"> • Gas (power plants, transport of gas)¹⁾ 	
	<ul style="list-style-type: none"> • Large hydropower^{2),3)} • Bioenergy, incl. bio energy carbon capture storage^{3),4)} • Coal with carbon capture and storage (CCS)^{1),3)} • Nuclear³⁾ 	

Decision trees: Example gas infrastructure



WRONG DIRECTION

Natural gas in electricity generation must rapidly decline in the long term

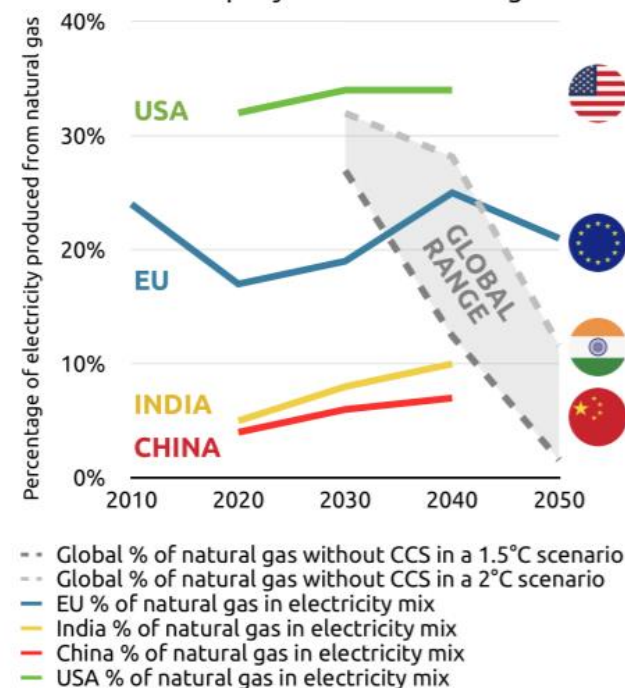


Figure 2: Projected share of electricity from natural gas compared with the range of global scenarios consistent with 1.5°C/2°C concerning the share of electricity from gas without CCS. Calculations based on MESSAGE (IIASA 2016), IEA WEO

NEWS RELEASE

US energy storage market grows 232% year-over-year in Q1 2019

A new report from Wood Mackenzie and the Energy Storage Association finds that the US storage for megawatts deployed in a single quarter

04 June 2019

Solar+storage can outcompete “mid-merit” gas units, not just peakers

Solar plus storage can deliver, at lower cost, the same generation profile as “mid-merit” gas generating units in a number of cases studied, per an analysis published by Fluence.

APRIL 22, 2019 WILLIAM DRISCOLL

COST AND PRICES

MARKETS

CALIFORNIA

UNITED STATES





Thank you for your attention!

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