



CLIMATE POLICY INITIATIVE

Paris Misaligned Webinar

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Driving trillions for a low-carbon, climate resilient economy



Annual climate finance flows still fall well short of what is needed under a 1.5 °C scenario.



Paris Misaligned: Key findings

Across all regions, 2018 power sector investment was misaligned with a Paris-compatible <2°C scenario.

Commercial banks and export credit agencies were the most misaligned finance providers among private and public institutions, respectively.

Investing in new zero-carbon generation alone is insufficient for Paris alignment; addressing locked-in emissions from existing fossil fuel generation is crucial.

Overview of CPI's recommendations

To get on a pathway to Paris alignment in the global power sector, we must halt new carbon-intensive investments, accelerate retirement of existing fossil-fuel assets, and continue to grow low-carbon investment.

Public institutions must...

incentivize clean energy deployment and rapid phase-out of fossil fuels, supported by the political and financial strength of development banks.

Private finance must...

capitalize on low-carbon investment opportunities, implement enhanced climate risk reporting, and focus on real-economy impacts.

Service providers must...

harmonize data gathering practices, provide more granular high-GHG finance data, and incorporate climate considerations in credit ratings.

Presenters

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Agenda

- Overview of the Paris Misaligned reports
- Methodology and key findings from all three reports
- Recommendations and next steps
- Q&A

Overview

Paris Misaligned

Paris Misaligned Reports: Structure and Content

Improving tracking of high emissions finance in the **Power Sector**

OI HIGH emissions Overview of data and • methodologies on public and private finance flows in high emissions assets and activities

Data processing and application of methodology

> 03 Key **Observations**

A proposed method for measuring Paris Alignment of New Investment

02 Alignment of newinvestment Method to measure impact of new investment to energy scenarios and emission budgets

- Apply data and methods to power sector globally ٠ and to the transport sector in the United States
- Present holistic findings focusing on progress (or ٠ problems) in specific geographies and among certain groups of actors

Report 1

Improving Tracking of High-Emissions Finance in the Power Sector

Improving Tracking of High-GHG Finance in the Power Sector

 Review current taxonomies, classification systems and existing estimates.

2. Map available datasets at the global level

3. Indicate coverage and data gaps

4. Conclude with recommendations to improve the tracking

Power sector finance includes a wide range of activities

Finance for high-emissions generation	Finance for energy efficiency and grid infrastructure
Included	Excluded
 New power plants that are: coal -fired oil-fired gas-fired and expansions of plants using these technologies 	 Energy efficiency renovations to all kinds of fossil plants. These investments are also excluded from climate finance tracking and represent a (contested) form of 'transition finance.' Programs with funds allocated to transmission and distribution with benefits to
Excluded	full electricity system.
New power plants that are:	
waste-to-energycogeneration from biomass	
and expansions of plants using these technologies	

Tracked finance for high-emissions power generation, by institution category and region of destination

■ Private financial institutions ■ Public financial institutions and governments ■ Corporations and SOEs

Coverage in our granular dataset of total fossil fuel power investment varies by region

--- Global average tracked investment share

Key findings and conclusions

- Far less progress in identifying and restricting investment that is harmful to climate goals.
- Granular data are not currently available for equity and debt provided through the balance sheets of utilities and other corporate entities investing in power generation.
- Regulators and policymakers should introduce mandatory disclosure of capital expenditures into new high-emissions assets and activities.

Report 2

A Proposed Method for Measuring Paris Alignment of New Investment

Paris Alignment definition in this work

Broad definition: "A holistic commitment to make investments and overall organizational practices consistent with the achievement of the Paris goals, both in mitigation and adaptation, through the integration of Paris targets across the investment decision chain, from strategy and sourcing through to due diligence." (I4CE and CPI, 2019).

Narrow definition: "The consistency of new investments - those that produce immediate changes in the real economy - with Paris-aligned, or Paris misaligned temperature trajectories."

Overview of existing approaches

	TAXONOMY-BASED APPROACHES	SCENARIO-BASED APPROACHES
Technical focus	Climate solutions (e.g. renewable energy, energy efficiency)	Economic/productive sectors (e.g. power sector, transport sector)
Geographical focus	Can be country-speci	fic or global
Alignment benchmark	Based on project-specific thresholds, or benchmarks.	Flexible, it can be based on project specific thresholds, or aggregated thresholds established at the technical focus of reference.
Outcome	Binary: aligned or not aligned	Provides a temperature scenario that investment examined is compatible with.
Example outcome	The investment in a power plant project in Brazil is aligned with Brazil's national contribution and/or international efforts on climate goals.	Investment in the Brazilian power sector by one specific entity, or a broader investor group, is com- patible with a 3C country-specific scenario pathway, and with a 2C scenario global pathway.

Step 1: Estimate carbon intensity thresholds required from investments under different temperature pathways

IC. Activity output from assets/capacity in the pipeline associated to the new investment

S. Activity output/supply generated by current operating assets/capacity

Activity output/supply adjustment reflecting time aspects
 (-decommissioned/retired + finished deployment/construction)

SI. Activity output/supply from currently operating assets in the year of comparison after considering adjustments (Δ)

Sn. Activity level needs, usually a function of market demand.

N. Additional Activity Output required to meet total Activity needs

R. Activity output/supply adjustment reflecting replacement by new commitments

Sf. Asset replacements (R = SI+IC-D)

Note: Carbon intensity temperature thresholds can be calculated at technology-level, country-level, or global level.

Step 2: Assess the alignment of new commitments with several temperature pathways

investment portfolio is broken down by shares of

country-specific temperature pathways.

investment portfolio is broken down by country of destination

Note: Carbon intensity thresholds floor to 0, if data on carbon-negative activities (e.g. CCS) is not covered.

Added value of proposed method

Complement existing efforts, by providing a stronger focus on **new investment** – a practical way to track financial actors' contributions to changes in the real economy – pathways at the **country-level**, and a system to account for **locked-in emissions**.

	ASSET TARGETED	LEVEL OF ANALYSIS	LEVEL OF ALIGNMENT	PROJECTED LOCKED IN EMISSIONS
New method	New assets commissioned	Individual entity; aggregated financial actor categories; aggregated sector- level impact; aggregated country- level impact.	Sectoral pathways; country-specific pathways.	Variable in the assessment of new investment alignment.
Existing methods	Existing portfolios of assets	Individual entity	Sectoral pathway; global pathways.	Not factored in.

What do the alignment statuses mean?

- Four distinct Paris alignment statuses:
- Aligned, corresponding to temperature rise below 1.8°C, compatible with Paris goals
- Somewhat Misaligned, corresponding to temperature rise below 3.2°C but above 1.8°C (1.8°C- 3.2°C)
- Very Misaligned, corresponding to temperature rise above 3.2°C (>3.2°C)
- Extremely Misaligned, corresponding to temperature rise well above 3.2°C (>>3.2°C)

The alignment status assessment:

- Evaluates alignment of **new financing commitments in 2018**
- Uses 2030 as milestone for comparison, the "decade of action"
- Assigns alignment status using **intensity thresholds** estimated at 1) technology-level 2) country/regional-level, 3) global-level.

Note: Outcomes in this presentation should be interpreted as preliminary results from a first application of the methodology.

Report 3

Paris Misaligned: An Assessment of Global Power Sector Investment

Revisiting our three major takeaways:

Across all regions, 2018 power sector investment was misaligned with a Paris-compatible <2°C scenario.

Commercial banks and export credit agencies were the most misaligned finance providers among private and public institutions, respectively.

Investing in new zero-carbon generation alone is insufficient for Paris alignment; addressing locked-in emissions from existing fossil fuel generation is crucial.

Global power sector investment

In 2018, 29% of global power finance funded high-GHG generation, including coal, natural gas, and other sources, driving severe global misalignment with Paris-aligned emissions pathways.

2018 Global Power Sector Investment

Source countries for power sector investment

• China, Japan, and the United States are currently the largest sources of the fossil fuel power investment driving misalignment.

97% of China's \$8b in 2018 fossil fuel finance was directed abroad, largely to South Africa, Indonesia, Brunei, Sri Lanka, and Zimbabwe.

The majority of Japan's \$4.6b for fossil fuels funded coal power, both domestically (\$2.2b) and abroad (\$0.6b).

Almost all of the \$1.5b in US fossil finance went to natural gas power, with 86% of this flowing to domestic projects.

Destination regions for power sector investment

- Investment in the Middle East, Asia
 Pacific, and
 Africa was
 especially
 carbon-intensive.
- While investment in other regions was less polluting, no region's 2018 capacity additions were aligned with a <2C scenario.

Power sector investment by financial actor type

- Corporates and commercial FIs together accounted for \$183b of investment in 2018.
- \$145b came from unknown actors,

representing onethird of total investment, as a result of gaps in project-level data.

Power sector investment by financial actor type

 Among private investors, commercial banks were the most misaligned, while misalignment among public actors was most severe for export credit agencies.

Export credit agencies

were responsible for largescale coal finance, driving extreme misalignment when aggregated by technology or by region.

Transport alignment: U.S. light road vehicles

Objective: Assess the alignment of new light road vehicle purchases in 2018

What changes:

- 3 technologies: ICE, PHEV, BEV
- 2 actors: Government or Households and Businesses
- A different Carbon Intensity (CI) measure in grams of CO2 emitted per mile traveled

	2018 investment (USDm)	2025 temperature trajectory
Total	581,450	>2.7°C
Households and Businesses	578,369	>2.7°C
Government	3,081	<2°C - <2.7°C

Conclusions

What did we learn? What's next?

Overall messages from the report series

- New power generation investment globally was extremely misaligned with Paris Agreement goals, on track for over 3.2°C of warming.
- 2. No major investor category is fully aligned with Paris emissions intensity targets for power sector finance.
- 3. Making power investment compatible with Paris-aligned 2030 emissions pathways requires us to address **locked-in emissions from the existing fleet**, in addition to new generation investment.
- 4. Limited disclosure of primary investment in high-emissions assets makes targeted assessments challenging. **Coordination is needed to remedy misalignment.**

Action items

Attaining Paris alignment in the power sector will require immediate, meaningful action on three key priorities:

- 1. Halt new carbon-intensive investments.
- 2. Accelerate retirement of locked-in fossil-fuel assets.
- 3. Continue to scale up low-carbon investments.

Solutions

Public sector

- Introduce the right **incentives** in the power sector.
- Facilitate **accelerated decommissioning** of highemissions generation.
- Promote the use of **precautionary principles** in the assessment of new fossil fuel investment.
- Leverage development finance institutions' (DFIs) political and financial strength to support the Paris Agreement.

Private sector

- Capitalize on **investment opportunities** in the low-carbon economy.
- Expand, strengthen, and harmonize Task Force on Climate-related Financial Disclosures (TCFD) **climate risk reporting**.
- Focus on impacts in the **real** economy.

Service providers

- Harmonize data collection and reporting methods.
- Expand the **availability of transaction-level data** on highcarbon finance, particularly for corporate balance sheet investments.
- Incorporate high emissions asset risks and alignment status in **credit rating**.
- Enhance **cross-organization coordination** in investment decision-making.

Next steps for research in this area

- 1. Update the alignment analysis for new power sector investment in **2020**, drawing on new country/regional scenarios reflecting net-zero goals.
- 2. Deep dive on possible levers to connect **capital markets** to climate objectives and outcomes in the **real economy**, looking at specific policies, financial instruments and incentives to facilitate retirement.
- **3. National case studies** on the power sector, with more detailed assumptions provided e.g. through government collaboration.
- 4. Further expand analysis in **road transport** and explore potential applications of our alignment assessment methods in **other sectors**.

We invite feedback on our methodology and analysis to take any of these steps forward.

Contact -

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Thank You

We tracked new project finance commitments to fossil fuel power generation of over USD 40 billion per year in 2017 and 2018

Private or public actors	Actor type	Financial commitments (USD bn/year)	New capacity attributed (GW/year)
Public	Export credit agencies	9.2	5.5
Public	State-owned financial institutions	5.1	2.5
Public	National DFIs	3.2	3.5
Public	Multilateral DFIs	1.4	1.8
Public	State-owned enterprises	1.4	1.5
Public	Bilateral DFIs	1.1	1.2
Public	Governments	0.1	0.1
Private	Commercial financial institutions	13.1	15.8
Private	Corporations	4.6	3.8
Private	Funds	0.7	0.7
Private	Institutional investors	0.6	0.6
Unknown	Unknown (estimated)	89.0	79.5

Holistic systems for classifying investments by climate alignment emphasize assets' technical characteristics as well as contextual factors

Example	Туре	Classification details
EU Taxonomy	Regulation	Determines activities that can substantially contribute to climate change mitigation with corresponding metrics and threshold.
		Specific exclusions based on technical criteria, which are therefore ineligible to be treated as 'green' finance:
		 Activities related to dedicated storage and/or transportation of any fossil fuels
		Energy generation from coal
		 Energy generation from gaseous or liquid fossil fuels that do not comply with energy thresholds (100gCO2e/kWh, declining to 0gCO2e/kWh by 2050)
Climate Bonds	onds Certification T	Traffic light system:
Initiative		 Green – assets or projects automatically compatible with a 2-degree trajectory. This includes, for instance, most renewable energy generation technologies and their transmission infrastructure
		 Orange – potentially compatible with a 2-degree trajectory, depending on whether additional, more specific technical criteria are met, for example, fossil fuel-based generation facilities without carbon capture and storage (CCS)
		• Red – incompatible with a 2-degree trajectory. Most coal or oil fueled power generation is included in the list, except for those with CCS that capture 100% of GHG emissions
		 Grey – further work required to determine stoplight color. Most gas powered generation facilities are included in this category

Arabesque

Sectors	Metrics	Current metrics estimate	Scenario metrics estimate	Pathway allocation
Power, Industry, Transport and Other	Emission Intensity Ratio (EIR) = <u>tCO2e</u> \$m Revenue	$\frac{(\text{Scope 1} + \text{Scope 2 GHG emissions})}{(\text{Gross value added})}$ The GVA would usually be calculated as GVA = pre-tax profits + depreciation + labour expenses	(sector – specific GHG emissions) (sector – specific GDP) Intensity ratio calculated for every sector and IEA scenarios (B2DS, 2DS, RTS). GDP calculated using 2010 PPP USD.	Comparison between sector-specific company-level EIR and Sector-specific EIR under different pathways. This will determine temperature pathway of current company EIR.
Theoretically applicable to any sector and country	Annual emissions variation = %	%annual variation in emissions calculated for the last 3 years.	%annual variation in emissions calculated to achieve net 0 by mid-2060s.	Comparison between company-level %annual growth and company-level %annual reductions to understand change in pace required.

2D Investing (PACTA) / Finance Map

Sectors	Metrics	Current metrics estimate	Scenario metrics estimate	Pathway allocation
Power (Gas, Coal, Nuclear, Hydro, RE), automotive (ICE, hybrid, electric), oil and gas (oil, gas production), coal mining, aviation, shipping, cement, and steel sectors	Sector-specific activity- based metrics (MW, barrels, CO2)	 Activity-based metrics for sector-specific assets sourced from several datasets. Activity-based metrics from assets is assigned to companies based on ownership shares companies assigned to financial instruments based on ownership shares. 	 Activity-based metrics calculated for every sector and IEA scenarios (B2DS, SDS, SPS CPS) Activity-based metrics for relevant sectors and scenarios is assigned to companies and financial instruments based on market share (based on activity) 	Comparison between current sector- specific activity-metrics attributed to company/instrument and sector- specific activity-metrics assigned to company/instrument. This will determine temperature pathway of current activity-metrics.

SBTi – absolute contraction approach

Section 3. Absolute Contraction Approach

Well below 2 degree scenario (WB2C)

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	Base year (2014)	Target year (2026)	% Reduction
Scope 1 enissione (ICO2e)	290	140	30.0%
Scope 2 anazarna (ICO2e)	630	420	30.0%
Scope 1+2 emeasure (ICO2e)	800	560	30.0%

1.5 degree scenario (1.5C)

Review all target modelling data

	Base year (2014)	Target year (2026)	% Reduction
Scope 1 emissions (ICO2e)	200	80	\$0.4%
Scope 2 emissions (ICO24)	800	290	50.4%
Scope 1+2 emissions (ICO2e)	800	357	50,4%

Sectors	Metrics	Current metrics estimate	Scenario metrics estimate	Pathway allocation
All sectors or specific sectors depending on contraction approaches	Emissions = tCO2	Scope 1 + Scope 2 GHG emissions	 Sector-specific or global pathways scenarios for 1.5C and 2C calculated based on IAMC scenarios. A short time span is considered using this approach. %annual reduction in emissions under the scenario are simply applied as such to the initial company's emissions to determine its target. 	Target for year X is determined

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SBTi – sectoral convergence approach

Sectors	Metrics	Current metrics estimate	Scenario metrics estimate	
Power, Iron and steel, Aluminum, Cement, Pulp and paper, Passenger and Freight transport, Service and commercial buildings	Emission intensity = <u>tCO2</u> (activity metircs) Emissions = tCO2	(Scope 1 + Scope 2 GHG emissions) (Activity metrics)	 Intensity ratio calculated for every sector and for the B2DS IEA scenario. Emissions metrics for the relevant sectors for the B2DS IEA scenario is assigned to companies and financial instruments based on: convergence of intensity to sector intensity under B2DS scenario emissions calculated using the market share expected at the time of the determined target 	Target for year X is determined

Summary of proposed approach – first step

Temperature pathways (in terms of degrees Celcius) in the country of desitnation as a function of different levels of carbon intensity

First step: calculating thresholds

Summary of proposed approach – first step

Definitions

- IC. Activity output from assets/capacity in the pipeline associated to the new investment
- Activity output/supply generated by current operating assets/capacity
- Δ. Activity output/supply adjustment reflecting time aspects
- **SI.** Activity output/supply from currently operating assets in the year of comparison after considering adjustments (D)
- Sn. Activity levels nees, usuallu a function of market demand
- N. Additional Activity Output required to meet total Activity needs
- R. Activity outpu/supplu adjustment reflecting replacement by new commitmens
- Sf. Asset replacements (R=SI+IC.D)

Power sector methodology

• Compare GHG emissions intensity targets taken from IEA energy sector scenarios to estimates of emissions intensity for new 2018 power sector investment

Source(s)	Assumption(s)	Use	
IEA	Energy sector demand and emissions scenarios	Provide electricity demand and emissions targets for given temperature increase pathways	
US EIA, Lazard, CA Energy Commission	Thermal plant heat rates by technology type	Calculate existing and new plant emissions	
US EIA, US EPA, IEA, others	Thermal plant emissions rates by fuel type	Calculate existing and new plant emissions	
REN21, IRENA, Lazard	New plant capital costs by technology type	Calculate investment costs for projects with capacity data only	
LBNL, CA Energy Commission, ICF	New and existing plant useful life by technology type	Project plant retirements through 2050	

Transport sector methodology (1/2)

U.S. light road vehicle 'Well-To-Wheel' CO2 scenarios

Transport sector methodology (2/2)

Carbon intensity (CI) requirements of new vehicles (given lockedin pre-2018 fleet) by scenario

	2018	2025 CI of 2018	2025	2030 CI of 2018	2030
	investment	investment	temperature	investment	temperature
	(USDm)	(g/mi)	trajectory	(g/mi)	trajectory
Total	581,450	440 - 441	>2.7°C	439 - 441	>2.7°C

2018 2019 2020 2021 2022 2023 2024 2025 2026 2027 2028 2029 2030 Year

50

0

compatible with:

=>1.8°C

=<1.8°C

Use cases

- **Investors** Enable evaluation of the alignment of planned new investments with different temperature pathways. This information may also be a useful tool for day-to-day investment decision-making, especially when used in conjunction with sustainable investment taxonomies from organizations like the European Commission (EU-TEG, 2020) and Climate Bonds Initiative (2020).
- Policymakers, private responsible investment initiatives, and coalitions of financial regulators Track progress in aligning the financial sector with Paris targets by measuring how, and to what magnitude, new investment choices can impact countries' decarbonization trajectories on a periodic basis (e.g. year-to-year). This can help decision-makers monitor the most recent trends and determine where regulatory or policy changes or incentives can be most effectively applied to drive adoption of newinvestment practices that can support the financial system's transition.

Beyond direct investors

• Approach could be further expanded by combining it with **ownership structures**. This would help understand the role of financial institutions not involved in primary investment, in **creation of new HE / LE assets** through primary investment.

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