

****EMBARGOED TUESDAY 24 JANUARY 00.01****

Background briefing

JUST 7% OF GLOBAL BANKS' ENERGY FINANCING GOES TO RENEWABLES, NEW DATA SHOWS

Major global banks are standing in the way of climate targets with new data showing just 7% of their financial backing for energy companies representing the majority of production went to renewable energy activities between 2016 and 2022.

The data indicates major failings by financial institutions to help meet global commitments on net zero emissions by 2050 since it shows shockingly low financial support through loans and bond underwriting for clean energy. It calls into question pledges from the industry-led Glasgow Financial Alliance for Net Zero, whose [commissioned research](#) shows low carbon energy investments need to be at least four times fossil fuels investments by 2030 to reach climate goals. The requirement for this 4:1 ratio by the end of the decade (which should be regarded as the minimum level needed not least given some of the items often included by the industry as low carbon energy¹) was acknowledged by Mark Carney - the Co-Chair of GFANZ - in his recent evidence to the UK Environmental Audit Committee.²

The research assessed lending and bond underwriting transactions by the world's sixty largest commercial banks to 377 companies operating in the global energy sector (coal, oil & gas, electricity, and renewable energy) for the period January 1, 2016 to 31st July 2022. These companies represent around 75% of the global production volume in the past three years for all activities related to renewable energy and to fossil fuels.

¹ We do not believe energy sources such as biomass, nuclear, or blue hydrogen should be considered renewable energy nor that investment in carbon capture and storage should be included in calculating investments in clean energy.

² <https://parliamentlive.tv/Event/Index/823310c9-b857-47e1-81de-e87ac06366f0>
<https://carbontracker.org/gfanz-under-the-parliamentary-spotlight/>
<https://twitter.com/MarkJCarney/status/1592874082319884290?s=20&t=e8cF4ZFN3pYNTSFMazJKDg>

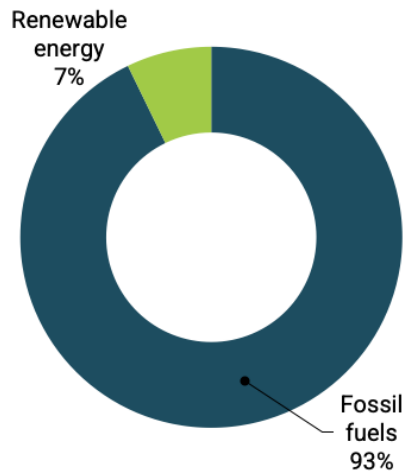
The research also calls into question claims by major global banks that they are continuing to lend to fossil fuel clients to help them to move to a low carbon business model. By examining the designated ‘use of proceeds’ of the financing made available and the proportion of business activities related to fossil fuels or renewable energy for each company, the research assesses how much of the financing received is being used to fund clean energy business strategies versus conventional fossil fuel activities.

The research was carried out by Profundo for Sierra Club, Fair Finance International, BankTrack and Rainforest Action Network.

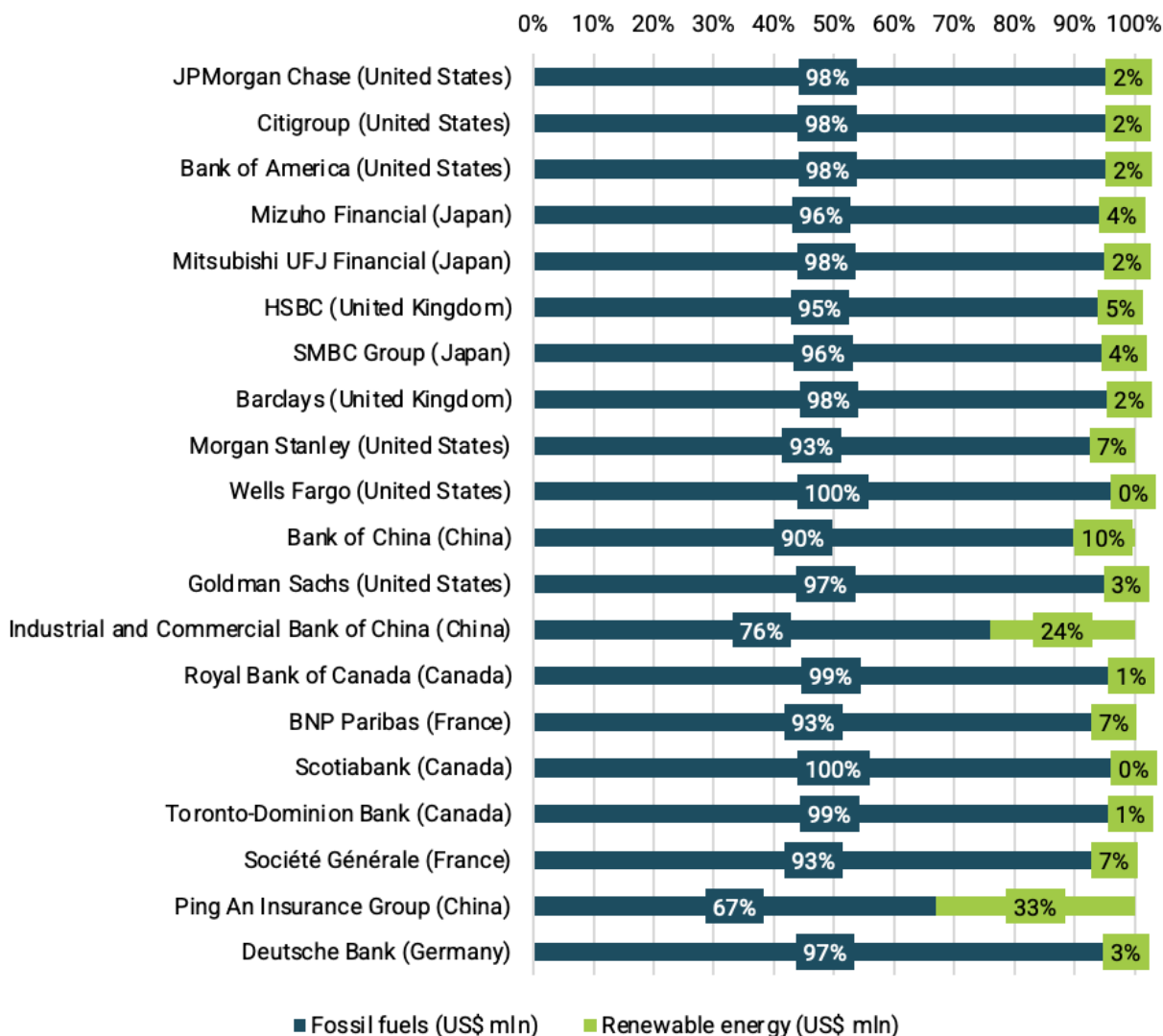
Key Findings:

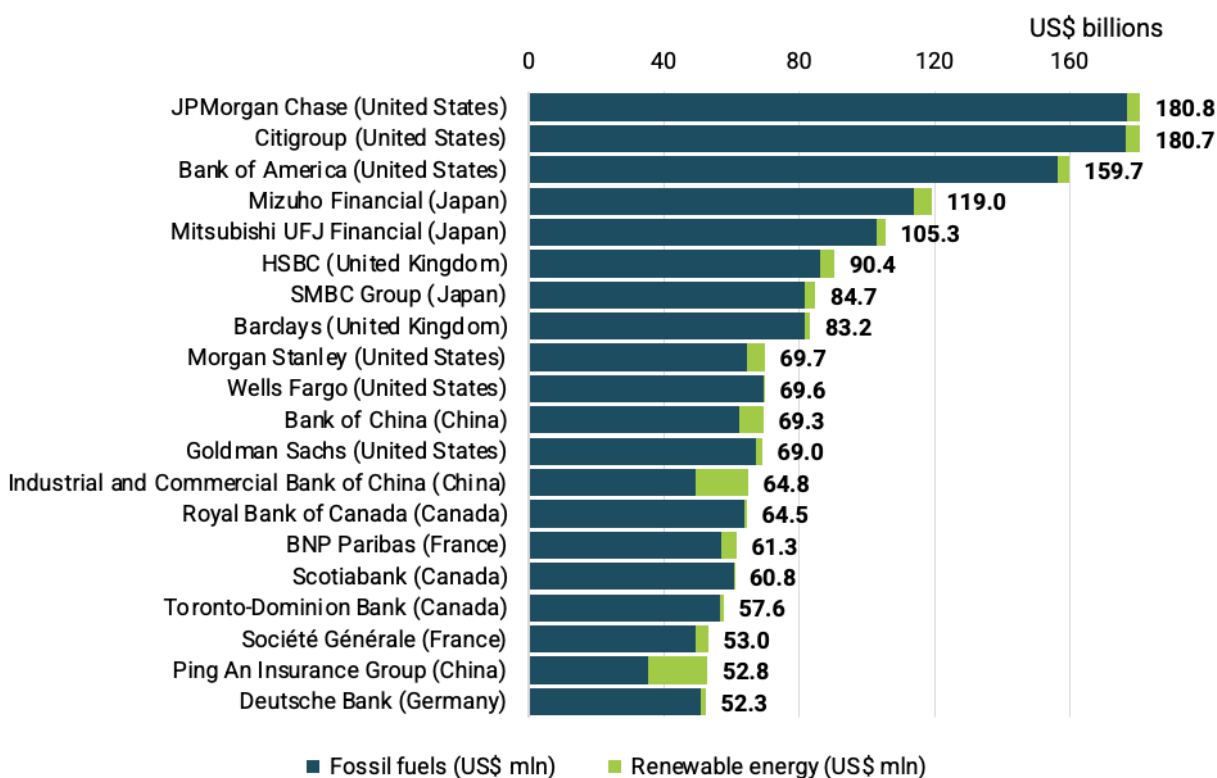
- Of the \$2.5trn in loans and bond underwriting services for energy activities provided by 60 major banks to 377 leading energy companies in the period January 2016 - July 2022, US \$2.3trn was for activities related to the production of fossil fuel energy, versus \$178 billion for clean energy activities. This represented only 7%.

| Year | Sum of Fossil fuels (US\$ mln) | Sum of Renewable energy (US\$ mln) |
|--------------|--------------------------------|------------------------------------|
| 2016 | 333,032.23 | 23,195.82 |
| 2017 | 324,505.48 | 21,455.92 |
| 2018 | 316,497.32 | 24,735.83 |
| 2019 | 443,191.60 | 26,048.37 |
| 2020 | 434,933.08 | 33,470.89 |
| 2021 | 299,183.71 | 34,576.75 |
| 2022 | 165,022.91 | 14,853.48 |
| Total | 2,316,366.34 | 178,337.06 |



- For some individual major banks the picture is even more dismal with no banks close to the 80% proportion of funding for renewable energy which is required by 2030.
 - of the \$181 billion that each of Citi and JPMorgan Chase pumped into the energy companies examined in the study between 2016 and 2022 just 2% went to renewables;
 - similarly, only 2% of Barclays financing of the energy companies examined went to renewables;
 - Royal Bank of Canada: 1%
 - Mizuho: 4%
 - HSBC: 5%
 - BNP Paribas: 7%





- The banks that are members of GFANZ actually provided less financing for renewable energy, on average, than their counterparts that are not in the alliance.

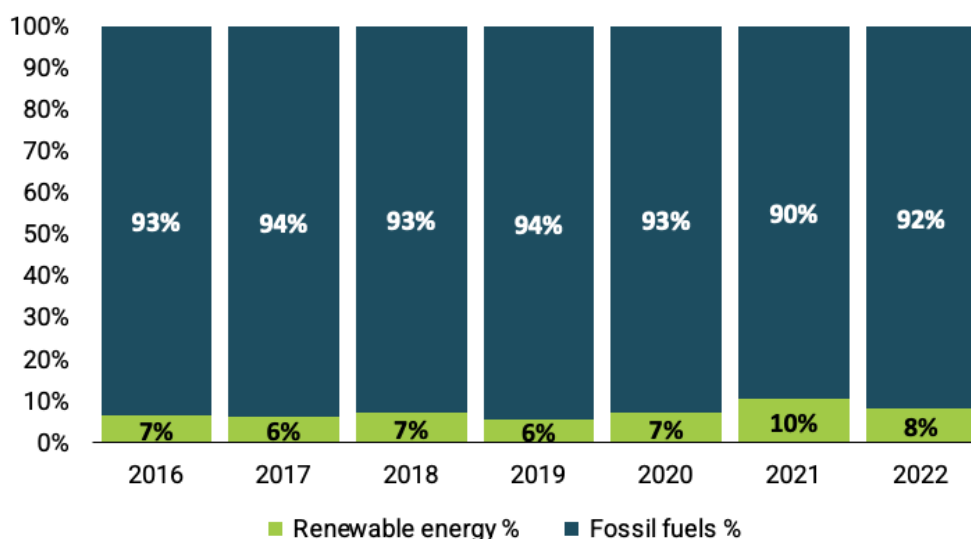
Non GFANZ Banks

| Year | Fossil fuels % | Renewable energy % |
|------|----------------|--------------------|
| 2016 | 85% | 15% |
| 2017 | 78% | 22% |
| 2018 | 81% | 19% |
| 2019 | 84% | 16% |
| 2020 | 86% | 14% |
| 2021 | 79% | 21% |
| 2022 | 82% | 18% |

GFANZ Banks

| Year | Fossil fuels % | Renewable energy % |
|------|----------------|--------------------|
| 2016 | 96% | 4% |
| 2017 | 97% | 3% |
| 2018 | 96% | 4% |
| 2019 | 97% | 3% |
| 2020 | 95% | 5% |
| 2021 | 94% | 6% |
| 2022 | 97% | 3% |

- Despite there needing to be 4 dollars invested in renewable energy for every 1 dollar invested in fossil fuels by the end of 2030, progress has remained virtually stagnant since the Paris Agreement. The proportion of bank loans and bond underwriting to renewables was stuck at no higher than 7% between 2016 and 2010, then rose slightly in 2021 to 10% but only because of a drop in fossil fuel lending before falling again to 8% in 2022.



Summary Methodology

1. Selection of energy companies

This analysis focuses on sectors that can be considered as inputs for power generation and/or for energy used in transport, manufacturing industries and construction, and fugitive emissions from the production of fuels. Together these sectors are relevant for more than 60% of GHG emissions attributable to energy use and 49% of total global GHG emissions.³

The selection of companies, therefore, includes power generation companies; fossil fuel feedstock companies, and renewable energy input companies. The selection of fossil fuel companies is based on a selection of the largest companies on the Global Coal Exit List (GCEL) and the Global Oil & Gas Exit List (GOGEL) which are engaged in activities related to fossil fuels as shown in Table 1. The selection of “clean energy” companies is based on companies active in the production of equipment used for renewable energy (e.g. wind turbines or solar panels), or the generation of renewable energy. Finally, a selection of 25 largest electric utility companies globally, are included in the scope of this proposed research. The top 25 account for approximately 30% of global installed capacity. Reaching a higher proportion of total global installed capacity is beyond the scope of this research as it would involve a vastly longer list of companies due to far smaller levels of installed capacity of many more localized power producers. This resulted in a total of 377 companies.

This selection is based on market studies, data from industry federations and other reliable sources. With the number of (international) companies selected for this study we cover around 75% of the global production volumes in the past three years for all activities related to Renewable Energy and to Fossil Fuels.

Table 1 Activities related to Renewable Energy and Fossil Fuels

| Activities related to Renewable Energy | Activities related to Fossil Fuels |
|---|------------------------------------|
| Geothermal energy equipment manufacturing | Coal-fired power generation |
| Geothermal energy generation | Coal mining |
| Green hydrogen | Gas-fired power generation |

³ United Nations Framework Convention on Climate Change (n.d.), “GHG Profiles – Annex I”, online: http://di.unfccc.int/ghg_profile_annex1, viewed in February 2021.

| | |
|--|-----------------------------|
| Mini hydro (under 10 MW, run-of-the-river) | Gas production and refining |
| Ocean energy generation | Oil-fired power generation |
| Solar energy generation | Oil production and refining |
| Solar panel manufacturing (PV and CSP) | Oilfield services |
| Wind power generation | Pipelines |
| Wind turbine manufacturing | |

2. Analysing the activities of the Energy companies and Applying Segment Adjusters

Many of the selected companies have diversified portfolios, including potentially both fossil fuels and renewable energy (e.g. electric utility companies). A general corporate loan to an energy company can be used by the company to finance all types of activities in which it is involved. For general corporate loans provided to companies active in more than one segment, segment adjusters therefore can be used to attribute the financing amounts to different activities in which the energy company is involved. The proportion of business activities related to fossil fuels or renewable energy was calculated for all identified borrowers/issuers for each year a financial relationship was identified. These proportions are known as “segment adjusters” since their application to identified financing “adjusts” the original value to reflect the “segment” value more accurately. This makes it possible to show trends in financing attributable to fossil fuels and renewable energy, and the relative weight of each in the identified energy financing portfolios of the selected financial institutions.

Preferably, data on the annual capital expenditure (capex) per sector or segment in which the company is active has been used as it is forward looking. Where capex data per segment are not available, or the segment classification used by the company is too broad to distinguish between activities, the following proxies were used in order of preference:

- for electricity companies, the installed electricity generation capacity broken down by energy source;
- segment distribution of assets;

- segment distribution of costs;
- segment distribution of profits;
- An estimate based on the description of the company's activities.

The segment distribution of capex, assets, costs and/or revenues was primarily identified through annual reports, company filings and investor presentations. Segment adjusters were calculated separately for each of the years (2016-2022).

Note that the credit or investment figures for individual financial institutions might differ from the figures published by the financial institutions themselves on their credits to the fossil fuels sector, as these figures might cover more companies and count the full credit to each company. We only count the proportions which are directly attributable to fossil fuels and to renewable energy. The proportions of investments in these companies which are used for other energy sources, for electricity transportation and for non-energy activities are not taken into account.

3. Researching the financing of the selected energy companies

This research used financial databases Refinitiv, Bloomberg, TradeFinanceAnalytics, and IJGlobal to identify the loans and issuance underwriting services provided by the selected financial institutions to the selected companies engaged in the fossil fuels and renewable energy.

Creditor links were researched for the period 1st January 2016 to 31st July 2022.

From these data sources, the following data was retrieved for different forms of financing and investments:

- All loans (trade finance, project finance, general corporate loans, revolving credits) provided from 1st January 2016 to 31st July 2022 are taken into account.
- All underwritings of share and bond issuances in the last three years from 1st January 2016 to 31st July 2022 are taken into account.

All amounts found were converted, where necessary, to US dollars against the prevailing exchange rates at the moment the financing was provided.

For syndicated loans and underwriting syndicates some extra estimates might be needed to divide the so-called principal amount among all banks participating in the syndicate. The names and roles of all banks that participate in the syndicate are usually found in the data sources.

When the actual amounts for which banks participated in the syndicate are also available, this break-down was used and no further estimates were needed.

When no data was available on how the principal amount was divided among the various banks participating in the syndicate, an estimate was made based on the following guidelines:

- When the fees received per bank were known, the ratio of a bank's management fee was used to estimate its financial contribution to the loan or issuance. This was calculated as follows:

$$\text{Bank's contribution: } \left(\frac{\text{individual bank's fee}}{\sum \text{of all banks' fees}} * \text{principal amount} \right)$$

- When the fees were unknown for one or more participants in a deal, we first calculated the bookratio to determine how the principal amount was divided between the bookrunners (the banks arranging the deal) and the other banks participating more passively in the syndicate. The bookratio was calculated as follows:

$$\text{Bookratio: } \frac{\text{number of banks} - \text{number of bookrunners}}{\text{number of bookrunners}}$$

Table 2 shows which share of the principal amount is then divided to the bookrunners, depending on the bookratio calculated. This table is based on experience gained by Profundo over the years with analysing thousands of loan and issuance syndicates for which the contributions of individual banks were known. Experience learns that for loan syndicates, the share of the principal amount that is divided between the bookrunners decreases when the total number of banks in the syndicate increases. For issuance syndicates this is not the case.

Table 2

Contributions assigned to the bookrunners in loan and issuance syndicates

| Bookratio | Loans | Issuances |
|-----------|-------|-----------|
| >1/3 | 75% | 75% |
| >2/3 | 60% | 75% |
| >1.5 | 40% | 75% |
| >3.0 | <40%* | <75%* |

*For loan and issuance syndicates with a bookratio of more than 3.0, we used a formula which gradually lowers the commitment assigned to the bookrunners as the bookratio increases. The formula used for this is:

$$\frac{1}{\frac{\sqrt{\text{bookratio}}}{1.443375673}}$$

The number in the denominator is used to let the formula start at 40% in case of a bookratio of 3.0. As the bookratio increases the formula will go down from 40%. For issuance syndicates the figure in the denominator is 0.769800358.

This research step results in an overview of the selected financial institutions showing per bank with which companies from the selected list of companies they have financial links and for which amounts they financed, or invested in, these companies in the past six years (2016 - 2022).

4. Combining financings with segment adjusters

The financing identified for each financial institution were then combined with the relevant segment adjusters. For example, if we found that Oil Company A received a general corporate

loan from Bank B for US\$100 million in 2019. During this financial year, 95% of Oil Company A's capex went to oil, 3% to wind power, and 2% to activities which are not relevant for our analysis. US\$95 million was therefore attributed to fossil fuels, US\$3 million to renewable energy, and US\$2 million was not included in the analysis.

After making these calculations for all financings found, the total amounts financed by each bank were added up, both for *Renewable energy* activities and for *Fossil fuel* activities. As all financing attributable to other energy activities as well as to non-energy sectors is ignored, the total financing analysed for each financial institution will usually be lower than the actual financing provided to the selected companies.

Using the total financing amounts, we also calculated which percentage of the combined energy financings and investments of the banks went to *Renewable energy* in the past three years and which percentage to *Fossil fuels*. These percentages were calculated per individual financial institution and for the three groups: banks, insurers and pension funds.

The findings about their own financial institution were shared with the banks for their comments.

The Banks

Agricultural Bank of China

ANZ

Banco Bilbao Vizcaya Argentaria (BBVA)

Bank of America

Bank of China

Bank of Communications

Barclays

BMO Financial Group

BNP Paribas

China Construction Bank

China Everbright Group

China Merchants Bank

China Minsheng Banking

CIBC

CITIC

Citigroup

Commerzbank

Commonwealth Bank of Australia

Crédit Agricole

Credit Suisse

Danske Bank

Deutsche Bank

DZ Bank

Goldman Sachs

Crédit Mutuel

Groupe BPCE

HSBC

Industrial and Commercial Bank of China

Industrial Bank Company

ING Group

Intesa Sanpaolo

JPMorgan Chase

KB Financial Group

La Banque Postale

La Caixa Group

Lloyds Banking Group

Mitsubishi UFJ Financial

Mizuho Financial

Morgan Stanley

National Australia Bank

NatWest

Nordea

Ping An Insurance Group

PNC Financial Services

Postal Savings Bank of China

Rabobank

Royal Bank of Canada

Santander

Scotiabank

Shanghai Pudong Development Bank

SMBC Group

Société Générale

Standard Chartered

State Bank of India

Sumitomo Mitsui Trust

Toronto-Dominion Bank

UBS

UniCredit

Wells Fargo

Westpac

Appendix 1 Energy companies researched in this project

| Company | Sector | Country |
|--|-------------------|----------------|
| Abengoa | Solar Panel CSP | Spain |
| ABM Investama | Mining | Indonesia |
| Abu Dhabi National Oil Company (ADNOC) | Oil & Gas | UAE |
| Acciona | Solar Panel CSP | Spain |
| Adani Group | Power Generation | India |
| Adani Group | Mining | India |
| Adaro Energy | Mining | Indonesia |
| AES | Power Generation | United States |
| Africa Coal Partners Ltd | Mining | South Africa |
| AGL Energy Ltd | Mining | Australia |
| Aiko Solar | Solar Panel PV | China |
| Alliance Resource Partners LP | Mining | USA |
| ALLTECH Group | Mining | Russia |
| Altraso Ventures Ltd | Mining | Russia |
| Aluminum Corporation of China Ltd | Mining | China |
| Ameren | Power Generation | United States |
| American Electric Power | Power Generation | United States |
| Anglo American PLC | Mining | United Kingdom |
| Anglo Pacific Group PLC | Mining | United Kingdom |
| Anhui Wanbei Coal - Electricity Group Co Ltd | Mining | China |
| Antero Resources Corporation | Oil & Gas | USA |
| APA Corporation | Oil & Gas | USA |
| Arch Resources Inc | Mining | USA |
| ARM Coal Pty Ltd | Mining | South Africa |
| Ascent Resources LLC | Oil & Gas | USA |
| Atlas Copco | Geothermal energy | Sweden |
| Baker Hughes | Oil Field Service | United States |
| Ballard Power Systems | Hydrogen | Canada |
| Bangladesh Petroleum | Pipelines | Bangladesh |
| Banpu Public Company Ltd | Mining | Thailand |
| Baramulti Suksessarana | Mining | Indonesia |
| Basra Oil Company | Oil & Gas | Iraq |
| Batchfire Resources Pty Ltd | Mining | Australia |
| Bayan Resources | Mining | Indonesia |
| Beijing Energy Group | Power Generation | China |
| Beijing Energy Holding Co Ltd | Mining | China |
| Berkshire Hathaway | Power Generation | United States |

| Company | Sector | Country |
|--|------------------|----------------|
| BHP Group Ltd | Mining | Australia |
| Bin County Coal Co Ltd | Mining | China |
| BioTherm Energy | Ocean energy | South Africa |
| Blackhawk Mining LLC | Mining | USA |
| Bloom Energy | Hydrogen | United States |
| Blue Energy Canada | Ocean energy | Canada |
| BP plc | Oil & Gas | UK |
| Brightsource | Solar Panel CSP | Israel |
| Bukit Asam | Mining | Indonesia |
| Bulgarian Energy Holding (BEH) | Mining | Bulgaria |
| Bumi Resources | Mining | Indonesia |
| Cabot Oil & Gas Corporation | Oil & Gas | USA |
| Canada Development Investment Corporation | Pipelines | Canada |
| Canadian Natural Resources Ltd (CNRL) | Oil & Gas | Canada |
| Canadian Solar | Solar Panel PV | Canada/China |
| CC Kolmar LLC | Mining | Russia |
| Celikler Holding | Mining | Turkey |
| Cenovus Energy Inc | Oil & Gas | Canada |
| Ceres Power | Hydrogen | United Kingdom |
| CEZ AS | Mining | Czech Republic |
| CEZ Group | Power Generation | Czech Republic |
| Chesapeake Energy Corporation | Oil & Gas | USA |
| Chevron Corporation | Oil & Gas | USA |
| China Datang | Power Generation | China |
| China Energy Investment Corporation (China Energy/ CHN Energy) | Mining | China |
| China Huadian | Power Generation | China |
| China Huadian Co Ltd | Mining | China |
| China Huaneng | Power Generation | China |
| China Huaneng Group Co Ltd | Mining | China |
| China National Coal Group Corp (ChinaCoal) | Mining | China |
| China National Offshore Oil Corporation (CNOOC) | Oil & Gas | China |
| China National Petroleum Corporation | Pipelines | China |
| China National Petroleum Corporation (CNPC) | Oil & Gas | China |
| China Petrochemical Corporation (Sinopec Group) | Oil & Gas | China |
| China Petrochemical Group (Sinopec Group) | Mining | China |
| China Petroleum & Chemical Corporation (Sinopec Corp) | Oil & Gas | China |
| China Pingmei Shenma Group | Mining | China |

| Company | Sector | Country |
|---|-----------------------|----------------|
| China Qinfu Group Ltd | Mining | China |
| China Resources | Power Generation | China |
| China Shipbuilding New Power Company | Solar Panel CSP | China |
| Chubu Electric Power | Power Generation | Japan |
| Chugoku Electric Power | Power Generation | Japan |
| CLP Group | Power Generation | Hong Kong |
| Coal India Ltd | Mining | India |
| Comisión Federal de Electricidad | Power Generation | Mexico |
| Complexul Energetic Oltenia SA | Mining | Romania |
| Concho Resources Inc | Oil & Gas | USA |
| ConocoPhillips | Oil & Gas | USA |
| CONSOL Energy Inc | Mining | USA |
| Continental Resources Inc | Oil & Gas | USA |
| Contura Energy Inc | Mining | USA |
| Datong Coal Mine Group Co Ltd | Mining | China |
| Devon Energy Corporation | Oil & Gas | USA |
| Diamondback Energy Inc | Oil & Gas | USA |
| DMCI Holdings Inc | Mining | Philippines |
| Dominion | Power Generation | United States |
| Dongfang | Wind Turbines | China |
| Drummond Company Inc | Mining | USA |
| DTE Energy | Power Generation | United States |
| DTEK | Power Generation | Ukraine |
| DTEK BV Group | Mining | Ukraine |
| Duke Energy | Power Generation | United States |
| E.ON | Power Generation | Germany |
| E.on | Power companies in NL | Netherlands |
| Eagle Spirit Energy Holdings | Pipelines | Canada |
| Ecopetrol SA | Oil & Gas | Colombia |
| EDF Group | Power Generation | France |
| Electricity Generating Authority of Thailand (EGAT) | Mining | Thailand |
| Elektrik Uretim A.S. Genel Mudurlugu (EUAS) | Mining | Turkey |
| Elektroprivreda Srbije (EPS) | Mining | Serbia |
| EN+ Group IPJSC | Mining | Russia |
| Enbridge | Pipelines | Canada |
| EnBW | Power Generation | Germany |
| Enea SA | Mining | Poland |
| Eneco | Power companies in NL | Netherlands |

| Company | Sector | Country |
|---|-----------------------|----------------|
| Enel | Power Generation | Italy |
| Enercon | Wind Turbines | Germany |
| Energeticky a prumyslovy holding a.s. (EPH) | Mining | Czech Republic |
| Energy Transfer | Pipelines | United States |
| Enerjisa Uretim Santralleri A.S. | Mining | Turkey |
| Engie | Power Generation | France |
| Engie | Power companies in NL | Netherlands |
| Eni SpA | Oil & Gas | Italy |
| Enterprise Products Partners | Pipelines | United States |
| Envision | Wind Turbines | China |
| EOG Resources Inc | Oil & Gas | USA |
| EP Investment II S.à.r.l. | Mining | Luxembourg |
| EP Investment S.à.r.l. | Mining | Luxembourg |
| EQT Corporation | Oil & Gas | USA |
| Equinor ASA | Oil & Gas | Norway |
| Erdenes Mongol LLC | Mining | Mongolia |
| Eskom | Power Generation | South Africa |
| Essel Mining & Industries Ltd (EMIL) | Mining | India |
| Eurasian Resources Group S.à.r.l (ERG) | Mining | Luxembourg |
| Evergy | Power Generation | United States |
| EVN | Power Generation | Vietnam |
| Exergy | Geothermal energy | Italy |
| Exxaro Resources Ltd | Mining | South Africa |
| Exxon Mobil Corporation | Oil & Gas | USA |
| Famur SA | Mining | Poland |
| First Solar | Solar Panel PV | United States |
| FirstEnergy | Power Generation | United States |
| FM Coal LLC | Mining | USA |
| Foresight Energy LP | Mining | USA |
| Formosa Plastics Group | Power Generation | Taiwan |
| Fortum | Power Generation | Russia |
| Fuji Electric | Geothermal energy | Japan |
| Gazprom | Pipelines | Russia |
| Gazprom | Oil & Gas | Russia |
| Gaz-System | Pipelines | Poland |
| GE Renewable Energy | Wind Turbines | United States |
| GE/Alstom | Geothermal energy | France |
| General Electric | Solar Panel CSP | United States |
| Geo Energy Resources Ltd | Mining | Singapore |

| Company | Sector | Country |
|--|-------------------|-------------------|
| Glencore PLC | Mining | Switzerland |
| Global Mining Holding Company LLC | Mining | USA |
| GMR Infrastructure Ltd | Mining | India |
| Goldwind | Wind Turbines | China |
| Guangdong Energy Group Co Ltd | Mining | China |
| Guangdong Yudean Group | Power Generation | China |
| Guanghui Energy Co Ltd | Mining | China |
| Guizhou Panjiang Coal And Electricity Group Co Ltd | Mining | China |
| Guizhou Panjiang Investment Holding (Group) Co Ltd | Mining | China |
| Guizhou Panjiang Refined Coal Co Ltd | Mining | China |
| Gujarat Mineral Development Corp Ltd | Mining | India |
| Gujarat State Petronet | Pipelines | India |
| Hallador Energy Co | Mining | USA |
| Halliburton | Oil Field Service | United States |
| Hanwha Q-Cells | Solar Panel PV | Republic of Korea |
| Hebei Construction & Investment Group | Power Generation | China |
| Heilongjiang Longmay Mining Holding Group Co Ltd | Mining | China |
| Helmerich & Payne | Oil Field Service | United States |
| Henan Energy and Chemical Industry Group Co Ltd | Mining | China |
| Henan Investment Group | Power Generation | China |
| Henan Shenhua Group Co Ltd | Mining | China |
| Hess Corporation | Oil & Gas | USA |
| Hindalco Industries Ltd | Mining | India |
| Hokkaido Electric Power | Power Generation | Japan |
| Hokuriku Electric Power Company | Power Generation | Japan |
| Huaibei Mining Group Company | Mining | China |
| Huaihe Energy Holding Group Co Ltd | Mining | China |
| Huainan Mining Group | Power Generation | China |
| Hubei Yihua Group Co Ltd | Mining | China |
| Idemitsu Kosan Co Ltd | Mining | Japan |
| Indian Oil Corporation | Pipelines | India |
| Indika Energy | Mining | Indonesia |
| Indonesia Asahan Aluminium LLP | Mining | Indonesia |
| Inner Mongolia Energy Generation & Investment Group | Mining | China |
| Inner Mongolia Huineng Coal and Electricity Group Co Ltd | Mining | China |

| Company | Sector | Country |
|---|-------------------|----------------|
| Inner Mongolia Manshi Investment Group Co Ltd | Mining | China |
| Inner Mongolia Yitai Group Co Ltd | Mining | China |
| Inpex Corporation | Oil & Gas | Japan |
| ITM Power | Hydrogen | United Kingdom |
| JA Solar | Solar Panel PV | China |
| Jemena | Pipelines | China |
| Jiangsu Guoxin Investment Group | Power Generation | China |
| Jiangsu Yueda Group Co Ltd | Mining | China |
| Jindal Steel & Power Ltd (JSPL) | Mining | India |
| Jingyuan Coal Industry Group | Mining | China |
| Jinko Solar | Solar Panel PV | China |
| Jinneng Group Co Ltd | Mining | China |
| Jizhong Energy Group Co Ltd | Mining | China |
| J-POWER | Power Generation | Japan |
| JSC HC SDS | Mining | Russia |
| JSC SUEK Group (Siberian Coal Energy Company) | Mining | Russia |
| JSC Uzbekneftegaz | Oil & Gas | Uzbekistan |
| Kailuan (Group) Ltd Liability Corporation | Mining | China |
| Karazhyra JSC | Mining | Kazakhstan |
| KEPCO | Power Generation | South Korea |
| Kiewit Peter Sons' Inc | Mining | USA |
| Kinder Morgan | Pipelines | United States |
| Kosovo Energy Corporation J. S. C. (KEK) | Mining | Kosovo |
| Kuwait Petroleum Corporation (KPC) | Oil & Gas | Kuwait |
| LG International Corp | Mining | South Korea |
| Liaoning Energy Industry Holding Group Co Ltd | Mining | China |
| LONGi | Solar Panel PV | China |
| Lukoil | Oil & Gas | Russia |
| Magellan Midstream Partners | Pipelines | United States |
| Mamoura Diversified Global Holding PJSC | Oil & Gas | UAE |
| Marathon Oil Corporation | Oil & Gas | USA |
| Menar Holding | Mining | Luxembourg |
| Minera del Norte S.A. de C.V. (MINOSA) | Mining | Mexico |
| Minesto | Ocean energy | Sweden |
| Ming Yang | Wind Turbines | China |
| Mitsubishi | Geothermal energy | Japan |
| Mongolian Mining Corporation | Mining | Mongolia |
| Moroccan National Board of Hydrocarbons and Mines | Pipelines | Morocco |

| Company | Sector | Country |
|--|-------------------|----------------|
| MPLX | Pipelines | United States |
| Murray Energy Corp | Mining | USA |
| NACCO Industries Inc | Mining | USA |
| National Energy Investment Group | Power Generation | China |
| National Iranian Oil Company (NIOC) | Oil & Gas | Iran |
| Navajo Transitional Energy Company LLC (NTEC) | Mining | USA |
| Nel | Hydrogen | Norway |
| New Hope Corporation Ltd | Mining | Australia |
| Nigerian National Petroleum Corporation | Pipelines | Nigeria |
| Nigerian National Petroleum Corporation (NNPC) | Oil & Gas | Nigeria |
| NLC India Ltd | Mining | India |
| Nordex-Acciona | Wind Turbines | Germany |
| North Oil Company (Iraq) | Oil & Gas | Iraq |
| Nova Innovation | Ocean energy | United Kingdom |
| NRG Energy | Power Generation | United States |
| NTPC | Power Generation | India |
| NTPC Ltd | Mining | India |
| OAO Kuzbasskaya Toplivnaya Kompaniya (KTK) | Mining | Russia |
| Occidental Petroleum Corporation | Oil & Gas | USA |
| Ocean Renewable Power | Ocean energy | United States |
| Oil and Natural Gas Corporation | Pipelines | India |
| Oil and Natural Gas Corporation Ltd (ONGC) | Oil & Gas | India |
| OMV AG | Oil & Gas | Austria |
| ONEOK | Pipelines | United States |
| OQ SAOC | Oil & Gas | Oman |
| Ordos Wulan Coal (Group) Co Ltd | Mining | China |
| Ormat | Geothermal energy | United States |
| Ovintiv Inc | Oil & Gas | USA |
| PAO NOVATEK | Oil & Gas | Russia |
| Patterson-UTI Energy | Oil Field Service | United States |
| Peabody Energy Corp | Mining | USA |
| Pembina Pipeline | Pipelines | Canada |
| Pertamina (Persero) | Oil & Gas | Indonesia |
| Petoro AS | Oil & Gas | Norway |
| PetroAmazonas EP | Oil & Gas | Ecuador |
| Petrobras | Pipelines | Brazil |
| PetroChina Company Ltd | Oil & Gas | China |
| Petroleo Brasileiro SA – Petrobras | Oil & Gas | Brazil |
| Petroleos de Venezuela SA (PDVSA) | Oil & Gas | Venezuela |

| Company | Sector | Country |
|---|-----------------------|----------------|
| Petroleos Mexicanos (PEMEX) | Oil & Gas | Mexico |
| Petroliam Nasional Berhad (Petronas) | Oil & Gas | Malaysia |
| PGE | Power Generation | Poland |
| PGE SA (Polska Grupa Energetyczna SA) | Mining | Poland |
| Phillips 66 | Pipelines | United States |
| Pioneer Natural Resources Company | Oil & Gas | USA |
| PipeChina | Pipelines | China |
| Plains All American Pipeline | Pipelines | United States |
| PLN Persero | Power Generation | Indonesia |
| Plug Power | Hydrogen | United States |
| Polska Grupa Górnicza (PGG) | Mining | Poland |
| Posco | Mining | South Korea |
| PTT Exploration and Production Public Company Ltd (PTTEP) | Oil & Gas | Thailand |
| PTT Global Management Co. Ltd (PTTGM) | Mining | Thailand |
| Public Power Corporation SA (PPC) | Mining | Greece |
| Qatar Petroleum | Oil & Gas | Qatar |
| Rajasthan Rajya Vidyut Utpadan Nigam Ltd (RVUNL) | Mining | India |
| Range Resources Corporation | Oil & Gas | USA |
| Reliance Power Ltd | Mining | India |
| Repsol SA | Oil & Gas | Spain |
| Rosneft Oil Company | Oil & Gas | Russia |
| Royal Dutch Shell plc | Oil & Gas | Netherlands |
| RusHydro | Power Generation | Russia |
| Russian Coal Co | Mining | Russia |
| RWE | Power Generation | Germany |
| RWE | Power companies in NL | Netherlands |
| RWE AG | Mining | Germany |
| Sabella | Ocean energy | France |
| Samruk Energy JSC | Mining | Kazakhstan |
| Sasol Ltd | Mining | South Africa |
| Saudi Arabian Oil Company (Saudi Aramco) | Oil & Gas | Saudi Arabia |
| Schlumberger | Oil Field Service | United States |
| Sener | Solar Panel CSP | Spain |
| Seriti Resources Holdings Pty Ltd | Mining | South Africa |
| Sev.en Energy Group | Mining | Czech Republic |
| Shaanxi Coal and Chemical Industry Group Co Ltd | Mining | China |
| Shaanxi Investment Group Co Ltd | Mining | China |

| Company | Sector | Country |
|--|------------------|----------------|
| Shaanxi Yulin Energy Group Co Ltd | Mining | China |
| Shandong Energy Group Co Ltd | Mining | China |
| Shandong Weiqiao Group | Power Generation | China |
| Shanghai Electric | Solar Panel CSP | China |
| Shanxi Coal Import & Export Group Co Ltd | Mining | China |
| Shanxi Coking Coal Group Co Ltd | Mining | China |
| Shanxi Jincheng Anthracite Mining Group Co Ltd | Mining | China |
| Shanxi Lanhua Coal Industry Group Co Ltd | Mining | China |
| Shanxi Lu'an Mining Industry (Group) Co Ltd | Mining | China |
| Shanxi Luxin Energysources Group | Mining | China |
| Shanxi Xinzhou Shenda Energy Group Co Ltd | Mining | China |
| Shenyang Coal Industry (Group) Co Ltd | Mining | China |
| Shenyang Coal Trade Group Corp Ltd | Mining | China |
| Sichuan Coal Industry Group LLC | Mining | China |
| Siemens Gamesa | Wind Turbines | Spain |
| SIMEC Atlantis (formerly Atlantis Resources Corporation) | Ocean energy | Scotland |
| Sinar Mas | Mining | Indonesia |
| Singareni Collieries Company Ltd (SCCL) | Mining | India |
| Sinopec | Pipelines | China |
| Sokolovská Uhelná AS | Mining | Czech Republic |
| Sonatrach | Pipelines | Algeria |
| Sonatrach SpA | Oil & Gas | Algeria |
| South32 Ltd | Mining | Australia |
| Southern Company | Power Generation | United States |
| Southwestern Energy Company | Oil & Gas | USA |
| Sowitec | Ocean energy | Germany |
| State Oil Company of the Azerbaijan Republic (SOCAR) | Oil & Gas | Azerbaijan |
| State Power Investment Corporation | Power Generation | China |
| State Power Investment Corporation (SPIC) | Mining | China |
| SUEK | Power Generation | Russia |
| Suncor Energy Inc | Oil & Gas | Canada |
| Surgutneftegas PJSC | Oil & Gas | Russia |
| Taipower | Power Generation | Taiwan |
| Tallgrass Energy | Pipelines | United States |
| Tata Power Co Ltd | Mining | India |
| Tatneft | Oil & Gas | Russia |
| TC Energy | Pipelines | Canada |

| Company | Sector | Country |
|--|-----------------------|---------------|
| Tennessee Valley Authority | Power Generation | United States |
| TEPCO | Power Generation | Japan |
| TerraCom Ltd | Mining | Australia |
| TNB | Power Generation | Malaysia |
| Tocado | Ocean energy | Netherlands |
| Tohoku Electric Power | Power Generation | Japan |
| Tongwei | Solar Panel PV | China |
| Toshiba | Geothermal energy | Japan |
| Total | Pipelines | France |
| Total SE | Oil & Gas | France |
| TransAlta Corp | Mining | Canada |
| Transgaz | Pipelines | Romania |
| Transnet | Pipelines | South Africa |
| Transocean | Oil Field Service | United States |
| Trina Solar | Solar Panel PV | China |
| Turboden (subsidiary of Mitsubishi) | Geothermal energy | Italy |
| Turkish Coal Enterprises (TKI) | Mining | Turkey |
| Turkmengaz | Pipelines | Turkmenistan |
| Turkmengaz State Concern | Oil & Gas | Turkmenistan |
| Uniper | Power Generation | Germany |
| Uniper | Power companies in NL | Netherlands |
| United Tractors | Mining | Indonesia |
| Ural Mining Metallurgical Company (UMMC) | Mining | Russia |
| UREC | Solar Panel PV | Taiwan |
| Vattenfall | Power Generation | Germany |
| Vattenfall | Power companies in NL | Netherlands |
| Vestas | Wind Turbines | Denmark |
| Vietnam National Coal Mineral Industries Holding Corporation Ltd (Vinacomin) | Mining | Vietnam |
| Vistra Corp | Mining | USA |
| Westmoreland Mining Holdings LLC | Mining | USA |
| Whitehaven Coal Ltd | Mining | Australia |
| Williams Companies | Pipelines | United States |
| Windey | Wind Turbines | China |
| Wintershall Dea GmbH | Oil & Gas | Germany |
| Wintime Holding Group Ltd | Mining | China |
| Wolverine Fuels LLC | Mining | USA |
| Xuzhou Mining Group Co Ltd | Mining | China |
| Yangquan Coal Industry (Group) Co Ltd | Mining | China |

| Company | Sector | Country |
|--|------------------|-----------|
| Yankuang Group Co Ltd | Mining | China |
| YPF SA | Oil & Gas | Argentina |
| Yunnan Coal Chemical Industry Group Co Ltd | Mining | China |
| Yunnan Xiaolongtan Mining Bureau | Mining | China |
| ZAO Stroyservis | Mining | Russia |
| ZE PAK SA Group (Zespół Elektrowni Pątnów Adamów Konin SA) | Mining | Poland |
| Zhejiang Provincial Energy Group | Power Generation | China |
| Zhengzhou Coal Industry Group Co Ltd | Mining | China |

| Sector | Count of Company |
|---|------------------|
| Geothermal energy utilization equipment | 8 |
| Hydrogen | 6 |
| Mining | 161 |
| Ocean energy | 9 |
| Oil & Gas | 69 |
| Oil Field Service | 6 |
| Pipelines | 33 |
| Power Generation | 58 |

| | |
|-----------------|------------|
| Solar Panel CSP | 7 |
| Solar Panel PV | 10 |
| Wind Turbines | 10 |
| Total | 377 |

Disclaimer: None of The Sunrise Project, Reclaim Finance, BankTrack or the Sierra Club or Fair Finance International is an investment or financial advisor, and none make any representation regarding the advisability of investing in any particular company or investment fund or vehicle. A decision to invest in any such investment fund or entity should not be made in reliance on any of the statements set forth in this document. While the authors have obtained information believed to be reliable, none of the authors shall be liable for any claims or losses of any nature in connection with information contained in this document, including but not limited to, lost profits or punitive or consequential damages. The opinions expressed in this briefing are based on research commissioned from Profundo using third party databases. The information in this document, or on which this document is based, has been obtained from sources that the authors believe to be reliable and accurate. However, no representation or warranty, express or implied, is made as to the accuracy or completeness of any information obtained from third parties. The data provided in this document is subject to intellectual property rights. It may not be used in publications other than for the purposes of reporting on this analysis.