

# Who Owns the World's Coal

## A forensic look at the shareholders of thermal coal reserves

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# Executive Summary

- The role of coal in the world's energy mix will be a key topic both at the upcoming COP meeting in Bonn and G20 discussions in Berlin in July where climate is certain to be on the agenda. While Europe is being urged [to shut its 300 coal fired power plants by 2030](#) to meet its Paris Agreement commitments, Japan appears [ready to build up to 45 new coal plants](#) in the coming years. The overwhelming majority of supply and demand for thermal coal remains in China and India, although [recent reports has put this demand in doubt](#).<sup>1</sup>
- Amid this, the fossil fuel divestment movement continues to gather steam - asset managers and owners representing over \$5 trillion (tn) in value had made some kind of divestment pledge by the end 2016.<sup>2</sup> Most of these are centered on the removal of thermal coal from investment portfolios but increasingly are looking at oil and gas and associated value chains.
- This study analyses in detail the ownership chains of the world's thermal coal. It tracks the links between the coal reserves (the mines), the operating coal companies and the shareholders who own these companies. It shows roughly \$185 billion (bn) in shareholder value associated with 117 listed thermal coal producers/owners, including widely held shares like BHP Billiton, Glencore and Berkshire Hathaway.<sup>3</sup> Roughly \$4bn is held in thermal coal equity value by the five leading Japanese trading and energy companies.<sup>4</sup>
- The 117 listed companies have thermal coal production of 3bn tons per year and control 150bn tons of reserves. If combusted at the rate of 2.1 tons/CO<sub>2</sub> per ton of coal<sup>5</sup> this 150bn tons represents roughly **43%** of the remaining carbon budget<sup>6</sup> to achieve 2<sup>0</sup>C warming and more than **6 times** the carbon budget to achieve 1.5<sup>0</sup>C global warming, according to an analysis based on IPCC estimates.<sup>7</sup>

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<sup>1</sup> Lacklustre power demand in Asia throws a cloud over coal, Economist, April 2017

<sup>2</sup> Fossil fuel divestment funds double to \$5tn in a year, The Guardian, December 2016

<sup>3</sup> The study regards a company's thermal coal value as its market value X proportion of sales accounted for by thermal coal.

<sup>4</sup> Itochu, Idemitsu, Sumitomo Corp, Mitsui & Co, Mitsubishi Corporation

<sup>5</sup> US Energy Information Administration, [Carbon Dioxide Emissions Coefficients](#), 2016

<sup>6</sup> Mercator Research Institute, [The Carbon Clock](#), 2014

<sup>7</sup> IPCC, [Climate Change 2014: Synthesis Report](#), 2014, p.63

- This study assesses coal divestment commitments of some of the largest pension funds. It finds good compliance over the last decade in divestment from coal producers. According to the InfluenceMap *divestment metric*<sup>8</sup> pension funds representing \$1.4tn in assets under management have divested 50% or more of the physical thermal coal in holdings since end 2011.<sup>9</sup> The world's second largest pension fund, in Norway, has shed almost 70% of its physical coal so far in its divestment programme with only diversified companies like BHP Billiton and Glencore remaining in the portfolio.
- The remaining shareholders of thermal coal roughly fit into three categories. Firstly, the strategic investors in China and India (governments, individuals, power companies, special purpose companies) who dominate the rankings. Secondly, leading US asset managers Blackrock and Vanguard group each own at least 400 million tons of thermal coal in equity holdings worth at least \$1.5bn each in total. Third are a number of mid-size US and other asset managers who have been bulking up on coal in the last five years in anticipation of a resurgence of some of the remnants of the US coal bankruptcies and growth in Asia.
- Notably absent from the list of large shareholders of thermal coal are leading financial groups like Aviva, AXA, Allianz, Aegon and Legal & General, through their insurance and asset management operations alike (the first four of whom have made divest statements) and large pension funds such as CalPERS and the European pension funds.
- Despite shifts in governments in the US and Europe, official data shows a steady decline in coal production and use on both sides of the Atlantic, essentially the results of the wind down of coal power stations with no new builds planned. EIA (Energy Information Agency) data shows a decline of 30% in US production between 2010 and 2016, for example. The trend in divestment continues with the NGO movement pushing for the next \$5tn in assets under management to make pledges with a focus firmly on pension funds around the globe.

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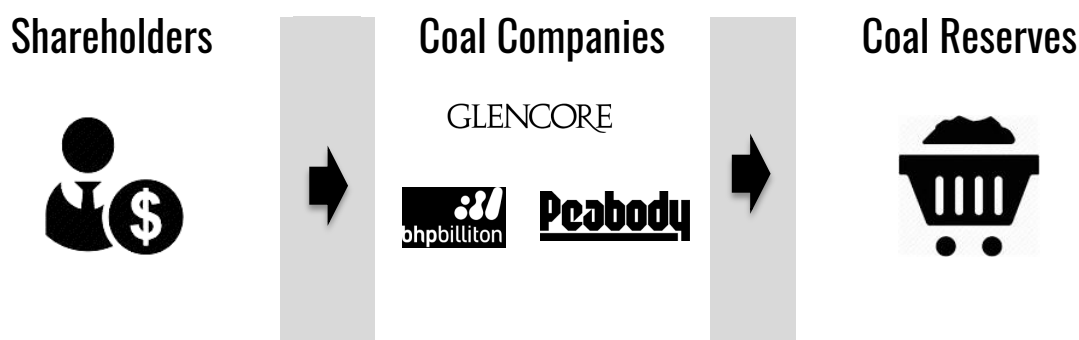
<sup>8</sup> The divestment metric is the change in the physical coal reserves (2011-2016) of the aggregate holdings of an investor and is a useful measure of divestment as it does not vary with share-price. A -100% indicates full divestment while positive values indicates adding coal.

<sup>9</sup> Norway's Pension Fund, CalPERS, CalSTRS.

# Coal - A Global Business

## Impaired Assets

This analysis links together three databases representing the world's largest thermal coal producers, the coal reserves they own and operate (coal mines) and their shareholders (e.g. asset managers, pension funds, listed funds etc.).



135 of the [world's largest coal producing companies](#) between them control over 165bn tons of lignite and sub-bituminous coal used in thermal power plants<sup>10,11</sup> or roughly 34% of the global total.<sup>12</sup>

If combusted at the rate of 2.1 tons/CO<sub>2</sub> per ton of coal<sup>13</sup> this 165bn tons represents roughly **45%** of the remaining carbon budget<sup>14</sup> to achieve 2°C warming and more than **6 times** the carbon budget to achieve 1.5°C global warming, according to an analysis based on IPCC estimates.<sup>15</sup> The annual production of these 135 companies is 3.4bn tons of coal used for thermal power generation, or roughly 50% of the global total.<sup>16</sup> This in turn accounts for roughly 20% of global annual greenhouse gas emissions.<sup>17</sup> These coal reserves are assets on the balance sheets of the 135 companies, 117 of which are listed on the world's stock exchanges. Many of these listed companies are widely held by

<sup>10</sup> The database contains all the coal producers in the [Carbon Underground 200](#) list plus some additional ones.

<sup>11</sup> Coal reserve data is proven and probably reserves of thermal coal as declared in the latest annual report. Where type of coal is not specified, a 50% attribution to thermal is assumed. Partial mine ownership by companies is accounted for.

<sup>12</sup> BP's [2016 Statistical Review of World Energy](#) gives global sub-bituminous and lignite reserves as 488bn tons for 2015. BP's data set may diverge due to varying standards of proven reserve calculations (e.g. India).

<sup>13</sup> US Energy Information Administration, [Carbon Dioxide Emissions Coefficients](#), 2016.

<sup>14</sup> Mercator Research Institute, [The Carbon Clock](#), 2014.

<sup>15</sup> IPCC, [Climate Change 2014: Synthesis Report](#), 2014, p.63.

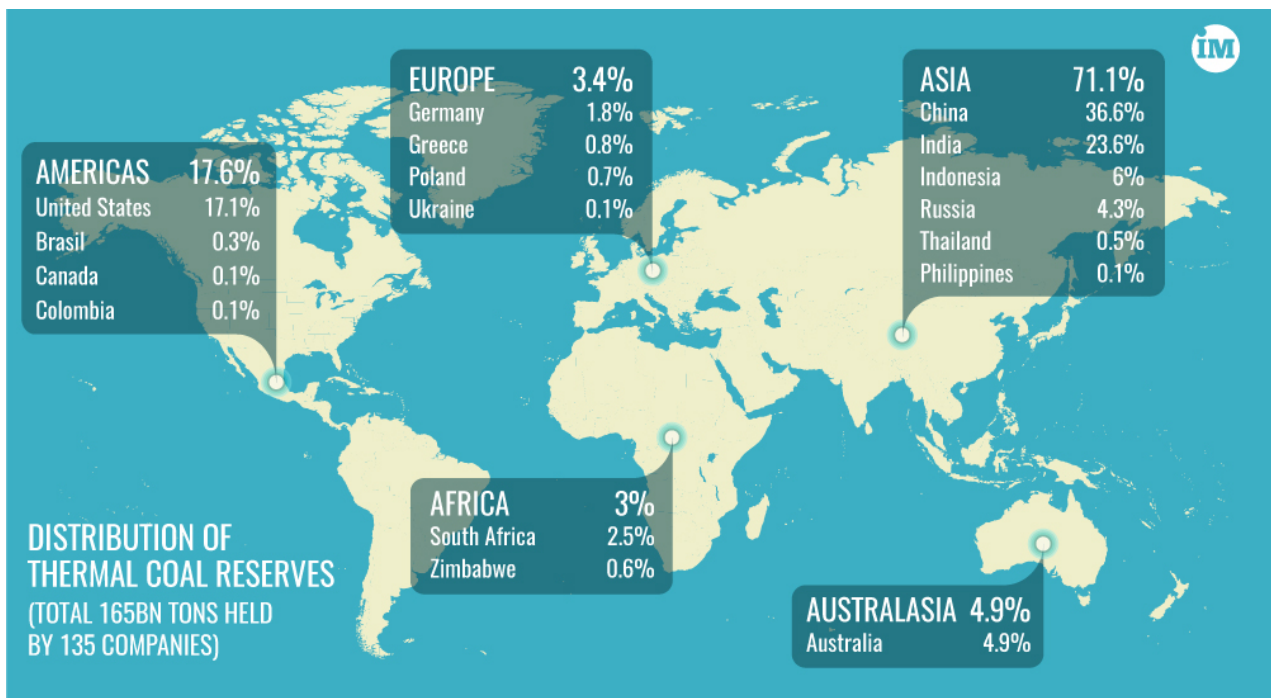
<sup>16</sup> IEA's [Coal Information](#), 2016

<sup>17</sup> The Global Carbon Project's [Global Carbon Budget 2016](#) calculates global emissions as 36.26 GtCO<sub>2</sub> in 2015.

shareholders such as listed funds, pension funds and asset managers around the globe. These listed coal producers alone have an aggregated market capitalization of \$185bn in shareholder funds.<sup>18</sup> Roughly \$4bn is held in thermal coal equity value by the five leading Japanese trading and energy companies.<sup>19</sup> The geographic spread of these 165bn tons of thermal coal reserves and shareholders are illustrated in the following maps.

## Where the Coal Reserves Are

The following shows where the physical thermal coal reserves are located around the world. This consists of 165bn tons of thermal coal in mines around the world controlled by 135 operating companies, 117 of which are listed in stock exchanges around the world.

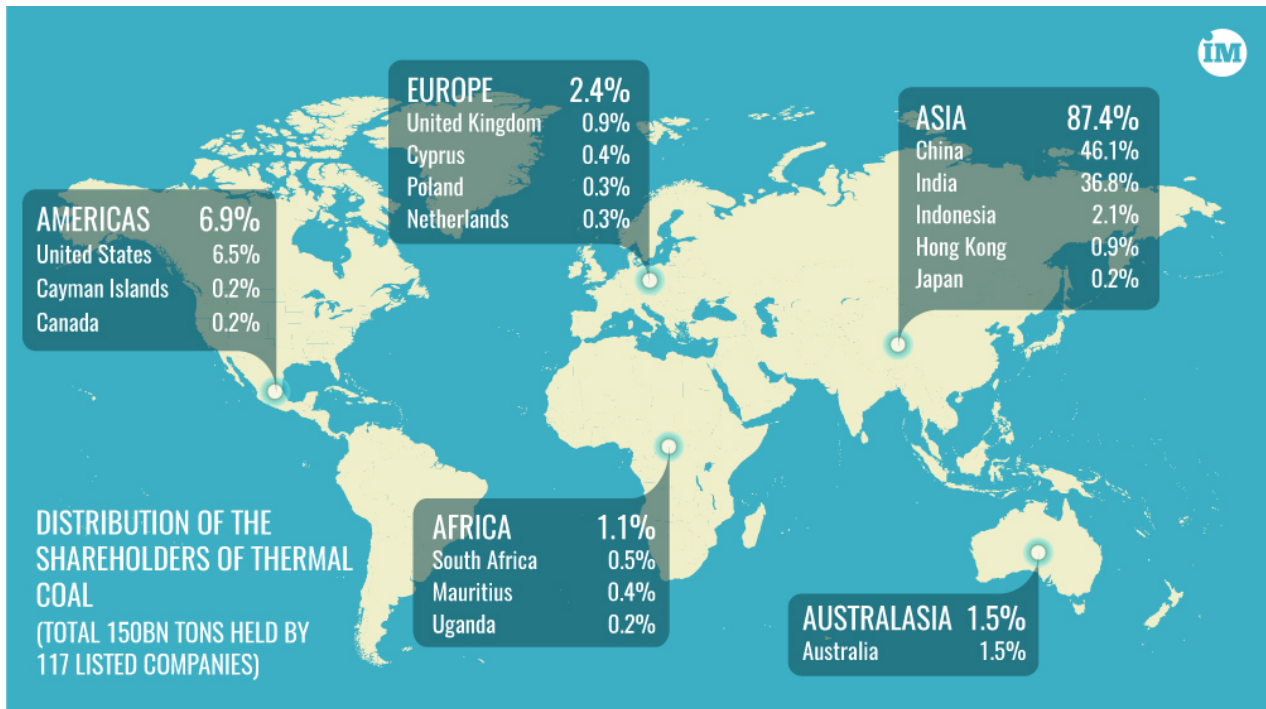


<sup>18</sup> Computed as the aggregated sum of (market value x percent of revenue in thermal coal), data from the latest annual reports.

<sup>19</sup> Itochu, Idemitsu, Sumitomo Corp, Mitsui & Co, Mitsubishi Corporation

## Where the Shareholders Are

The following infographic shows the global distribution of the top shareholders who own the companies who own thermal coal reserves. This consists of 150bn tons of coal reserves controlled by 117 listed operating companies which in turn are owned by thousands of shareholders globally, the latter's distribution indicated below.



\*Some countries' % totals do not appear in the map but are incorporated into the region total.

# Who Owns the Coal - An Analysis

## Introduction

In this section, shareholders who have some of the largest positions in global coal stocks and indirectly own large portions of the world's thermal coal reserves are noted. Our analysis recognizes various types of shareholders in the ownership chain. In this analysis we consider several key metrics.

- **AUM in Coal (Assets under management in Coal)** - refers to the aggregate value of coal producers in the entity's portfolio. Diversified companies like BHP Billiton have their market value tempered by the proportion of sales in thermal coal - expressed in both US\$.
- **Coal Reserves 20** - refers to the aggregate amount, in tons of the thermal coal directly owned by the companies in the asset owner/manager's portfolio.
- **Divestment Metric** - is the change in the physical coal reserves end-to-end 2011-2016 of the aggregate holdings of an investor and is a useful measure of divestment as it does not vary with share-price and relates directly to potential greenhouse gas emissions. A -100% indicates full divestment while positive values indicates the shareholder has added physical coal to their portfolio in the time period.

## The Top 20 Investors in Thermal Coal

In absolute terms of AUM in Coal and Coal Reserves, most of the top shareholders in thermal coal are in China and India and are strategic shareholders (governments, individuals, power companies, special purpose companies). The top 20 shareholders of thermal coal excluding these strategic investors, are listed ranked by thermal coal reserves effectively owned. It should be noted Vanguard and Blackrock would rank near the top shareholders in any asset class due to the sheer size of their equity holdings and the thermal coal shareholdings do not necessarily reflect active portfolio management. The Government of India, by far the world's leading shareholder of thermal coal, is noted for reference.

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<sup>20</sup> Coal reserve data is proven and probable reserves of thermal coal as declared in the latest annual report. Where type of coal is not specified a 50% attribution to thermal is assumed. Partial mine ownership by companies is accounted for accordingly.

Shareholder	Country	AUM in Coal (\$m)	Coal Reserves (m tons)	Divestment Metric <sup>21</sup>
<b>Central and local Gvmt, India</b>	<b>India</b>	<b>22,120</b>	<b>13,878</b>	<b>-7%</b>
Life Insurance Corporation of India	India	1,894	1,279	>100%
Fude Sino Life Insurance	China	570	702	>100%
The Vanguard Group	United States	1,360	462	55%
BlackRock Institutional Trust Company	United States	1,518	344	>100%
Dimensional Fund Advisors LP	United States	497	334	>100%
HSZ (Hong Kong) Limited	Hong Kong	26	288	>100%
Neuberger Berman LLC	United States	201	191	>100%
Elara Capital Plc	UK	16	177	>100%
Emerging India Fund Management Ltd	Mauritius	15	170	>100%
ICICI Prudential Asset Management	India	179	107	>100%
Accipiter Capital Management LLC	United States	50	122	>100%
M M Warburg Bank (Schweiz) AG	Switzerland	8	99	-58%
Prosperity Capital Management	Russia	27	84	>100%
BlackRock Investment Management (UK)	UK/US	765	79	-55%
Tontine Asset Management LLC	United States	27	72	-52%
Mangrove Partners	United States	27	68	>100%
Capital World Investors	United States	251	54	>100%
Renaissance Technologies LLC	United States	34	75	>100%
Templeton Asset Management Ltd	Hong Kong	207	84	-9%
Fidelity Management & Research	United States	180	83	-40%

<sup>21</sup> A -100% indicates full divestment while positive values indicates adding coal to the portfolio during the period 2011-2016.



The full list is available online in the [beta version of the InfluenceMap Finance Project](#).

## Pension Funds and Divestment

The divestment movement began roughly a decade ago as a global campaign to remove fossil fuel investments from pension and other funds. It was designed as a means of allowing citizens to participate in the allocation of their own financial assets in line with their own values. It was reported that as of the end of 2016, asset managers and owners representing over \$5tn in value had made some kind of divestment pledge.<sup>22</sup> The [Fossil Free website](#) notes the spread of shareholder entities who have made a [range divestment pledges](#). The pension system is a key target for divestment as it has some of the largest asset owners across the globe and is in theory directly accountable to the wishes of their beneficiaries (i.e. former employees or citizens).

We consider some of the largest pension funds that have made specific pledges or have requirements to divest from companies in the coal value chain. These funds have close to \$1.5tn in assets under management. The InfluenceMap analysis of coal shareholdings shows good compliance benchmarked against the various pledges. Our [divestment metric](#) reflects the change in the physical coal reserves of the aggregate holdings of an investor end of 2011 to end of 2016 and is a useful measure of divestment as it does not vary with share-price and relates directly to potential greenhouse gas emissions. All of the pension funds below showed very significant divestment since 2010.

Pension Fund	Assets (\$bn)	Divestment Statement	Analysis
Government Pension Fund Global (Norway)	892	Divest from coal power companies and mining companies who base 30% or more of their activities on coal. <a href="#">Link to Statement.</a>	The Fund has divested more than 70% of the physical coal reserves in its holdings since 2010 and does not hold entities above the 30% threshold.  <b>COMPLIANT</b>

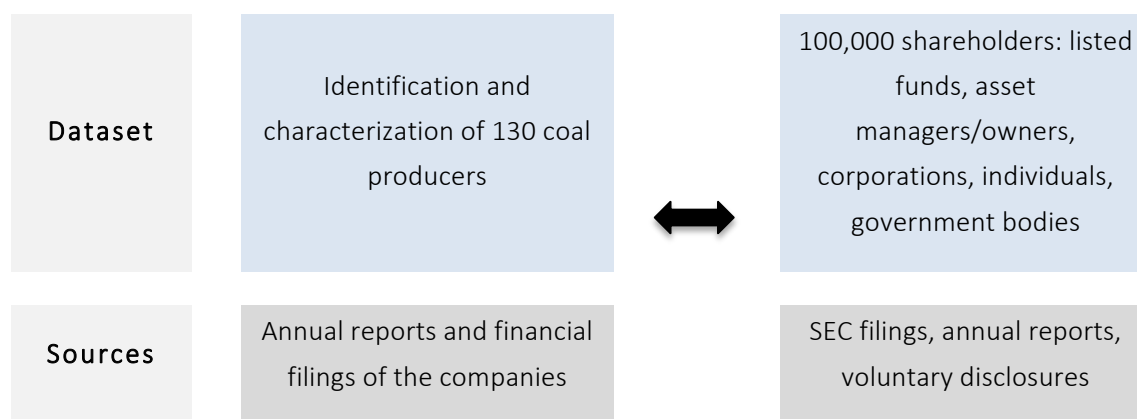
<sup>22</sup> Fossil fuel divestment funds double to \$5tn in a year, The Guardian, December 2016

<p>California Public Employees' Retirement System (CalPERS), (US)</p>	<p>318</p>	<p>IN 2015 CalPERS <a href="#">announced plans to engage</a> with thermal coal companies in its portfolio (\$57m worth) in response to a <a href="#">State Law requiring divestment from companies primarily in thermal coal before July 2017</a>.</p>	<p>CalPERS has divested from all coal producers with more than 50% in thermal coal in Q1 2017.</p> <p style="text-align: right;"><b>COMPLIANT</b></p>
<p>California State Teachers Retirement System (CalSTRS), (US)</p>	<p>202</p>	<p>CalSTRS <a href="#">announced coal divestment plans</a> in 2016 following a <a href="#">State Law requiring divestment from companies primarily in thermal coal before July 2017</a>.</p>	<p>CalSTRS has divested from all coal producers with more than 50% in thermal coal in Q1 2017.</p> <p style="text-align: right;"><b>COMPLIANT</b></p>
<p>Second Swedish National Pension Fund (AP2)</p>	<p>36</p>	<p>The AP2 has an <a href="#">on-going climate program</a> resulting in divestment of coal and fossil fuel holdings.</p>	<p>AP2 has divested 35% of the physical coal reserves in its holdings since 2010.</p> <p style="text-align: right;"><b>COMPLIANT</b></p>
<p>Oslo Pension &amp; Insurance Fund, (Norway)</p>	<p>9.8</p>	<p>In 2015, it <a href="#">was reported Oslo's pension fund was divesting from coal holdings</a>.</p>	<p>Our data shows the Oslo fund holds no physical coal reserves as of 12/2016.</p> <p style="text-align: right;"><b>COMPLIANT</b></p>

# Appendix: Methodology

## Introduction

Tracking shareholders and linking these shareholdings to physical coal production and reserves requires the linking of two datasets as illustrated below.



## The Coal Producers Dataset

This analysis focuses on coal producers. The 117 largest listed coal companies are considered along with some of the leading privately held coal firms. The list of [coal companies considered is online here](#). These are measured by a combination of market value, annual production of thermal coal and declared reserves of thermal coal. The latter two metrics are of the most interest to the sustainable finance and divest-invest communities as they represent current and future greenhouse gas emissions originating from these companies. Privately held delisted coal producers (such as many large US companies under bankruptcy protection as of end 2016) are also held in the database. The database contains all the coal producers in the [Carbon Underground 200](#) list.

## The Shareholders Dataset

Our database contains details of over 100,000 owners of shares we categorize into various Types. These are cross-referenced against ownership in publicly listed companies going back to 2011. There is therefore a huge number of data points gathered from many databases. We only rely on original source data (either from the owner, the company or a regulator) and make all efforts to keep our database current via regular updates. Requirements for disclosure of shareholdings vary by region and by type of shareholder. For listed funds and investment service providers in the US with more than \$100m AUM, certain disclosures are required by the SEC (e.g. [the 13-F requirements](#)) while

other types of shareholders such as foundations and individuals are not subject to rigorous disclosure. Hence our data on the shareholders of a particular company does not necessary capture the owners of all the outstanding shares. The following diagram summarizes the data quality for various shareholder types.

Data Sources on Shareholding	Shareholder Type	Quality of Data
Mandatory disclosures (e.g. SEC 13-F) applying to the investment services sector	Listed Funds	Good
	Asset Managers, Private Equity/Hedge Funds	Good *
Annual reports of company or government disclosure laws	Government	Fair
Voluntary disclosures to beneficiaries	Pension/Insurance Company	Fair
Voluntary disclosures	Non Profits	Poor
Company insider and M&A related laws (e.g. SEC 13-D, 13-G, 14A)	Individuals and Corporations	Poor

\* For managers or funds with more than US\$100m AUM

## FAQs of the Methodology

A full account of the datasets, sources, current limitations and future scaling plans may be found on the [InfluenceMap Finance Project homepage](#), along with an interactive database of coal shareholdings. Key FAQs are also noted below.

What data sources are used?	The ownership of shares in registered companies is often regulated by disclosure requirements such as the <a href="#">SEC's 13-F process</a> applicable to US investment managers. Other information on share ownership is available on company reports, asset owners' annual reports and global share registers. All of these are public data but require aggregation and compilation.
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<p>How accurate and current is the data?</p>	<p>The database contains details of over 100,000 owners of shares (listed funds, investors) cross referenced against ownership in publicly listed companies going back to 2010. There is therefore a huge number of data points gathered from many databases. The dataset uses original source data (either from the owner, the company or a regulator) and InfluenceMap make all efforts to keep our database current via regular updates.</p>
<p>What are the data limitations?</p>	<p>The shareholding data is only as good as the sources. In many parts of the share ownership chain, disclosure of registered or beneficial ownership is not required. It is recognized firstly that many of the registered shareholders may be holding the shares for another beneficial owner. For many users of this data, identification of the beneficial owner (the party who ultimately benefits from sale of the shares) is very important.</p>
<p>Does the data consider bond holdings?</p>	<p>The debt markets are extremely important as a source of finance for the industrial economy. InfluenceMap has plans to incorporate listed bond shareholdings in the fossil fuel economy in the same manner as it is done for equities. The loans banks make to specific companies or even sectors are generally not disclosed so this analysis needs to be compiled on a case-by-case basis from disparate sources.</p>
<p>What about multiple listings, delisted stocks and indirect ownership via listed funds?</p>	<p>Multiple listings and secondary listing such as ADRs (American Depositary Receipts) are accounted for in the computations. Many US coal stocks are delisted due to bankruptcy. Past ownership of these is included in the computations. Indirect ownership of coal assets by investors who own ETFs and mutual funds that own coal stocks is also considered. These are broken down as indirect and direct holdings in the Profile for each shareholder.</p>
<p>What about other sectors of the fossil fuel economy?</p>	<p>InfluenceMap has plans to map out oil and gas (characterizing the 250 largest producers by type of oil/gas assets) and other sectors heavily exposed to fossil fuels such as utilities, infrastructure and energy intensive industries (cement, steel etc.). Each sector will require its own analysis to characterize the fossil fuel intensity of the individual companies.</p>