$HORTING THE CLIMATE

FOSSIL FUEL FINANCE REPORT CARD 2016

RAINFOREST ACTION NETWORK

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$HORTING THE CLIMATE

FOSSIL FUEL FINANCE REPORT CARD **2016**

TABLE OF CONTENTS

IMAGE: ISAAC CORDAL / CEMENTECLIPSES.COM

EXECUTIVE SUMMARY

BIG BANKS ARE SHORTING THE CLIMATE - *AT WHAT COST?*

This seventh annual report card on energy financing evaluates top global private sector banks based on their financing for the fossil fuel industry. For 2016, the report has been expanded to high-risk subsectors of the oil and gas industry. It also analyzes patterns of private bank financing for coal, oil, and gas projects that have been financially disastrous and inflicted severe damage on communities, ecosystems, and the climate. The report identifies pervasive risk management failures across the North American and European banking sector on fossil fuel financing and calls for a fundamental realignment of bank energy financing to end support for fossil fuel projects and companies that are incompatible with climate stabilization.

In the past three years, the North American and European commercial and investment banking sector has engaged in fossil fuel financing practices that are deeply at odds with the global climate agreement reached at COP 21 last December. The Paris Climate Agreement's target of limiting warming to 1.5°C (or, at most, 2°C) above pre-industrial levels will require a rapid decarbonization of the global energy system. Distressingly, levels of fossil fuel financing by major North American and European banks between 2013 and 2015 are incompatible with these climate stabilization targets:

- **Coal mining** - As leaders of climate-vulnerable states called for a global moratorium on new coal mines, top banks financed $42.39 billion for companies active in coal mining, led by **Deutsche Bank** with $6.73 billion.
- **Coal power** - In spite of a recent study concluding that the current pipeline of planned coal power plants would put the 2°C climate target out of reach by the end of 2017, these banks financed $154 billion for top operators of coal power plants, led by **Citigroup** with $24.06 billion.
- **Extreme oil (Arctic, tar sands, and ultra-deep offshore)** - Future development of most of these high-cost, high-risk oil reserves is incompatible with even the 2°C target, but banks financed $307 billion for the top owners of the world's untapped "extreme oil" reserves, led by **JPMorgan Chase** with $37.77 billion.
- **Liquefied Natural Gas (LNG) export** - Banks financed $283 billion, led by **JPMorgan Chase** with $30.58 billion, for companies involved with LNG export terminals in North America, which have enormous carbon footprints and are stranded assets in the making based on a 2°C climate scenario.

Under pressure from global civil society, several U.S. and European banks have announced restrictions on financing for coal since last year. However, most of these policies fall well short of the necessary full phase-out of financing for coal mining and coal power production; as the report's grades for extreme oil and LNG export finance indicate, banks continue to finance these sectors on a nearly unrestricted basis. Banks also continue to fall distressingly short of their human rights obligations according to the United Nations Guiding Principles on Business and Human Rights, leaving banks complicit in human rights abuses by several of their corporate clients in the fossil fuel industry.

Even though its impacts will span centuries, climate change is no longer merely a long-term issue.

INTRODUCTION

An Urgent Need

The landmark Paris Agreement signed at COP 21 last year has underlined the urgent need to move away from fossil fuels. Past editions of this report card have focused on financing for the coal industry. But the global energy transition needed to hold climate change below the Paris Agreement's limit of 1.5°C above pre-industrial levels cannot be limited to coal: global oil and gas consumption must also decline rapidly. Accordingly, this report calls on the global private banking sector to end its support for the most carbon-intensive, financially risky, and environmentally destructive sectors of the fossil fuel industry: coal mining, coal power, extreme oil (tar sands, Arctic, and ultra-deepwater oil), and liquefied natural gas (LNG) export.

Financial institutions that support business-as-usual for the fossil fuel industry are placing their bets on companies whose long-term success depends on runaway climate change. If governments follow through on the Paris Agreement and enact policies to limit warming to 1.5 or even 2°C, investments in future coal industry infrastructure, LNG terminals, and extreme oil projects will be deeply unprofitable. These investments can only pay off in a future where international climate action fails and fossil fuel demand remains robust while the global climate tips past critical warming thresholds into chaos. Therefore, a loan to one of the companies highlighted in this report is an implicit wager that governments will fail to follow through on the Paris Agreement, and that civil society will not hold its governments accountable.

Shorting the Climate

In finance industry terms, "short-selling," or shorting, is a transaction through which an investor profits if a company or asset declines in value. After Paris, financing fossil fuels is tantamount to shorting the climate. The global banking sector is no stranger to breathtakingly cynical and short-sighted financing practices, having precipitated a global credit crisis in 2008 that brought the global economy to its knees before governments and central banks stepped in with a bailout. But if banks continue to bet that the fossil fuel industry wins and the climate loses, no bailout will be able to undo their recklessness this time. And while banks and investors may be able to wring fees and profits from fossil fuel companies over the short term, they will do so at the expense of some of the most vulnerable communities on the planet who live in or near fossil fuel "sacrifice zones" around the world.

These "sacrificial" communities include towns near blasted-off Appalachian mountaintops, coastal regions off the Gulf exploited for export terminals and offshore drilling, First Nations whose lands and waters are contaminated by tar sands mines in Canada, and communities from Poland to Indonesia to Bangladesh who breathe contaminated air and drink contaminated water from smokestacks, oil spills, and other routine disasters caused by fossil fuel infrastructure. And with global greenhouse gas concentrations rising steadily, the atmosphere itself and acidifying oceans are also becoming sacrifice zones, with devastating consequences for low-lying island nations and coastal communities worldwide.

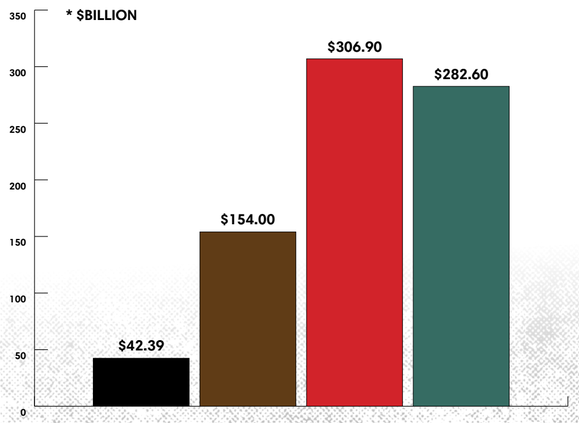
The Time is Now

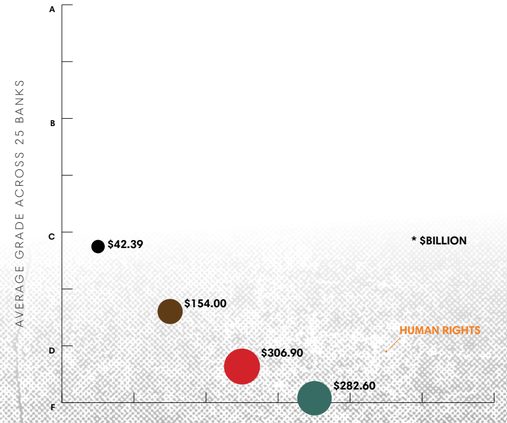
Even though its impacts will span centuries, climate change is no longer merely a long-term issue. It is already impacting hundreds of millions of people around the world — and continued financing of mines, power plants, and other fossil fuel infrastructure will lock in gigatons of emissions over the coming decades. Even if banks are able to absorb the losses from their recent investments in fracking, coal mining, and other struggling fossil fuel companies, the environmental and human consequences of continuing to short the climate and go "long" on climate disaster by financing coal, oil, and gas will continue to fall on others.

When the profits of financial institutions come at the expense of communities, ecosystems, and the atmosphere, it is past time for them to change. Ironically, continuing to finance fossil fuels is also becoming a risky strategy for banks, even on purely self-interested grounds. With a grassroots global climate movement gaining strength daily, the unprecedented pressure on global political leaders to act on climate and transition away from fossil fuel-based energy will only grow in strength and urgency in the coming years. And by 2050, rising sea levels are on track to submerge parts of Lower Manhattan, along with the rest of New York City. We hope, for everyone's sake, that it will not take water seeping into the lobbies of Wall Street office towers at mid-century for executives at banks and other financial institutions to understand that when it comes to climate change, their fates are bound up with everyone else's.

KEY DATA

From 2013-2015, 25 big banks poured billions into the fossil fuels that are most incompatible with a climate-stable world. And their grades show they have little plans to get out.





FINANCING FOR COMPANIES ACTIVE IN **COAL MINING**

FINANCING FOR THE 20 LARGEST **COAL-FIRED POWER PRODUCERS**

FINANCING FOR COMPANIES EXPOSED TO **EXTREME OIL**

FINANCING FOR COMPANIES EXPOSED TO **LNG EXPORT**

TOP FOSSIL FUEL BANKS

Financing from the past 3 years shows that **Citigroup** and **Bank of America** are the Western world's coal banks, while **JPMorgan Chase, Barclays,** and **Bank of America** are the bankers of extreme oil and gas.

Royal Bank of Canada is the biggest banker of tar sands, with financing that bumps the bank into the extreme oil big league.

JPMorgan Chase, Bank of America, Citigroup, Deutsche Bank, Morgan Stanley, and **BNP Paribas** appear in the top 10 of each extreme fossil fuel subsector.

BANK GRADES SUMMARY

COMPANY	COAL MINING	COAL POWER	EXTREME OIL	LNG EXPORT	HUMAN RIGHTS
UNITED STATES					
BANK OF AMERICA	B-	D	D-	D-	D-
CITIGROUP	B-	D+	D+	D	D+
GOLDMAN SACHS	C-	C	D	D-	D+
JPMORGAN CHASE	B-	C	D	D-	D+
MORGAN STANLEY	B-	C	D-	D-	D+
PNC FINANCIAL	B-	D+	N/A	D-	D-
WELLS FARGO	B-	D	D+	D-	D-
CANADA					
BANK OF MONTREAL	D-	D-	D-	D-	D-
CANADIAN IMPERIAL BANK OF COMMERCE (CIBC)	N/A	F	F	F	D-
ROYAL BANK OF CANADA (RBC)	D-	D-	D-	D-	D-
SCOTIABANK	F	F	F	F	D+
TD BANK	N/A	D-	D-	D-	D-

COMPANY	COAL MINING	COAL POWER	EXTREME OIL	LNG EXPORT	HUMAN RIGHTS
EUROPE					
BARCLAYS	C-	D	D-	D-	D+
BNP PARIBAS	C+	B-	D	F	D+
BPCE/NATIXIS	B-	B-	F	F	F
CRÉDIT AGRICOLE	B-	C	C	D	D-
CREDIT SUISSE	C-	D-	D	D-	D+
DEUTSCHE BANK	C-	D+	D-	D-	D+
HSBC	D	C	D	D-	D+
ING	C+	C+	C	D-	D+
ROYAL BANK OF SCOTLAND (RBS)	B-	B-	C	D-	D+
SANTANDER	D-	D-	D-	D-	D+
SOCIÉTÉ GÉNÉRALE	C+	C	D-	D-	D+
UBS	C+	D	D	D-	D+
UNICREDIT	D	D	F	F	D+

METHODOLOGY

Since 2010, Rainforest Action Network, in collaboration with BankTrack and the Sierra Club, has published an annual report card evaluating major commercial and investment banks on their financing for the coal industry. For 2016, we have broadened the focus of the report card with the support of Oil Change International to include subsectors of the oil and gas industry that face the greatest climate-related stranded asset risk, in addition to coal mining and power companies.

Expansion from Coal to include "Extreme" Oil and Gas

This expansion of the Coal Finance Report Card to a Fossil Fuel Finance Report Card was prompted by the unanimous global commitment to the 1.5° (and 2°) climate change targets in the 2015 Paris Climate Agreement. Even with a rapid, global transition away from coal mining and coal-fired power, these climate targets will not be achievable without also leaving the majority of the world's current oil and gas reserves in the ground.

In its Carbon Supply Cost Curves report series, the Carbon Tracker Initiative identified oil and gas projects that face the highest levels of stranded asset risk under 2° climate stabilization scenarios.[1] Therefore, in addition to coal mining and coal-fired power, the 2016 report assesses financing for extreme oil and gas operations, including Arctic, tar sands, and ultra-deep offshore oil, and North American LNG export terminals (all figures are in U.S. dollars unless otherwise noted). Further investment in and capital expenditure by these subsectors are the most incompatible with climate stabilization and also risk causing irreparable harm to communities and ecosystems.

Banking Industry Scope

Ratings assess 25 of the largest global commercial and investment banks based in Europe, Canada, and the United States. This report analyzes only private sector banks, though public finance institutions are also deeply involved with these risky and destructive sectors. Banks are included based on the size of their commercial and investment banking business, their inclusion in previous editions of this report card, and the extent of their financial relationships with coal mining, coal power, and oil and gas companies over the past three years.[2] This year, Canadian banks have been added and Chinese and Japanese banks have been omitted due to the geographic distribution of the largest bankers of fossil fuels covered in the report. Accordingly, this year's league table rankings assess banks based in Europe and North America.

Fossil Fuel Industry Scope[3]

- **Companies and transactions assessed - Coal mining:** For the coal mining industry, we assess each bank's total involvement in corporate lending and underwriting transactions (debt and equity issuance) from 2013 to 2015 with global coal mining companies (using the active companies in Bloomberg's "coal operations" sector definition).
- **Companies and transactions assessed - Coal power:** For the power sector, we assess banks based on their total involvement in corporate lending and underwriting transactions (debt and equity issuance) with the top 20 global electric power producers by coal generation capacity in Europe and the United States (top 10 by MW of coal-fired capacity in the United States and in Europe - see Appendix 2) from 2013 to 2015.
- **Companies and transactions assessed - Extreme oil:** Bank exposure to extreme oil production is based on each bank's total involvement in corporate lending and underwriting transactions (debt and equity issuance) with oil and gas producers that have more than 100 million barrels of proven or probable extreme oil reserves, including Arctic oil (9 companies), tar sands (30 companies), or ultra-deepwater oil, including in the Gulf of Mexico (29 companies) from 2013 to 2015.[4] Due to companies operating in multiple subsectors, 54 extreme oil companies are assessed in total. Oil companies that are majority-owned by governments have not been included in this analysis.
- **Companies and transactions assessed - LNG export:** To assess bank exposure to North American LNG export terminals, we assessed each bank's total involvement in corporate lending and underwriting transactions (debt and equity issuance) with the 31 companies with greater than 500 million cubic feet per day of attributable capacity in current or planned LNG export projects in North America.[5]

Bank Grades

We rate banks based on their policies and performance with respect to financing for coal mining, coal power, extreme oil, and LNG export. Banks also received a grade on their global human rights policies and practices. As we detail in each of these sections and Appendix 1, grades are assigned on an A-through-F scale. As part of the rating process, banks have been issued draft grades and given an opportunity to provide feedback.

PHOTO: PAUL CORBIT BROWN

PHOTO: PAUL CORBIT BROWN

BACKGROUND ON COAL MINING

AN INDUSTRY IN TURMOIL

2015 saw an already weakened coal mining industry sink further into distress. A number of major U.S. coal mining companies filed for bankruptcy, global coal demand continued to decline, and a solidifying policy consensus among the world's largest banks indicated that capital for coal mining had begun to dry up. The year ended with an agreement at COP 21 in Paris, which signaled that world governments were committed to transitioning away from high-carbon fuels and towards a zero-carbon economy, further darkening the long-term prospects for coal producers.

In August, then-President Anote Tong of the island nation of Kiribati tied the fate of a climate agreement in Paris to a global commitment to stop building new coal mines. In a letter to world leaders, Tong stated that "[t]he construction of each new coal mine undermines the spirit and intent of any agreement we may reach."[6] As a country on the literal frontlines of climate change, Kiribati's islands are less than two meters above sea level, and climate change is on track to leave the country's citizens without a homeland well before the end of the century. The phrase "1.5 to stay alive" is more than just a rallying cry for low-lying and small island states at the climate talks — it is a reality: unless the vast majority of the world's coal reserves stay in the ground, these nations will not have a future.[7]

Even before Paris, the prospects for the global coal mining industry grew increasingly dark last year. Globally, coal consumption was estimated to have fallen 2-4% in 2015, with notable declines in China (down 3.7%),[8] and the United States (down 13%). Since 2015, a number of planned mining and coal export projects have been cancelled, such as Arch Coal's Otter Creek mine in the United States, or abandoned by private sector banks, such as Adani's proposed Carmichael mine in Australia.[9] More broadly, a growing number of large banks in the United States and Europe released policies committing to reduce their financing for companies that predominantly mine coal.[10] Major asset managers, including **AXA** and **Allianz**, have adopted similar policies to exit coal, and as of December 2015, approximately $3.4 trillion in assets under management globally were divested from fossil fuels, including coal.[11]

The ongoing financial collapse of coal companies has reinforced the argument that coal remains a bad investment on financial grounds. In the United States, stock prices of coal mining companies fell over 92% between 2011 and 2016, as several coal producers filed for bankruptcy.[12] Notably, Peabody Energy, the world's largest private sector coal producer, filed for bankruptcy in April 2016. Peabody had previously bought time for itself by funding climate denial organizations and spinning off Patriot Coal, a designed-to-fail company that allowed Peabody to avoid paying health benefits to retirees.[13] The company was aided every step of the way by Wall Street banks, up until the end.

The future of coal mining remains uncertain in the United States and abroad. Scavenger companies such as Blackhawk Mining are buying up coal mines from bankrupt companies and ramping up production, including at mountaintop removal sites. Around the world in countries such as Colombia, India, Indonesia, Germany, and Poland, coal mining continues apace. It remains to be seen whether global banks fulfill the commitments they have made to transition away from financing coal altogether or bank a potential resuscitation — or even a resurgence — of the global coal industry.

"1.5 to stay alive"
is more than just a rallying cry
for low-lying and small island states at the climate talks — *it is a reality*:

unless the vast majority of the world's coal reserves *stay in the ground*, these nations will not have a future.

CASE STUDY

BLACKHAWK MINING - A VULTURE FIRM PICKS AT APPALACHIA'S BONES

As the future of the U.S. coal mining industry darkens, one upstart vulture firm has snapped up several mines from distressed coal giants. Founded in 2010, Blackhawk Mining has rapidly built a portfolio of surface and underground mines in Central Appalachia. Notably, in 2014, the company bought three mine complexes from then-bankrupt James River Coal and another four from Arch Coal.[14] In 2015, Blackhawk bought six mines from Patriot Coal as part of Patriot's bankruptcy settlement.[15] As a result of these acquisitions, in 2015, privately held Blackhawk was the largest producer of coal from mountaintop removal (MTR) surface mines in Appalachia. Blackhawk produced 5.45 million tons of MTR coal in 2015, more than 2014's top producer, the now-bankrupt Alpha Natural Resources.[16]

Blackhawk went on its MTR mine acquisition spree even as the vast majority of North American and European investment banks were moving away from financing the devastating mining practice in 2014 and 2015. Mountaintop removal has already destroyed 500 mountains in Appalachia and has been linked to health impacts such as cancer, cardiovascular disease, and birth defects.[17] In the face of this evidence, **Deutsche Bank** led all eight of Blackhawk's loan transactions between 2012 and 2015, helping to raise $1.3 billion for the company.[18]

Blackhawk has not been immune to the coal market downturn either, issuing layoff notices to mine workers at five of its mining complexes earlier in 2016, even as the company maintained that it planned to dramatically increase production at its mines in 2016 by over 50% year-over-year.[19] In March 2016, **Deutsche** adopted a tepid commitment to reduce financing for MTR coal — but the damage caused by the bank's past financing had already been done.[20]

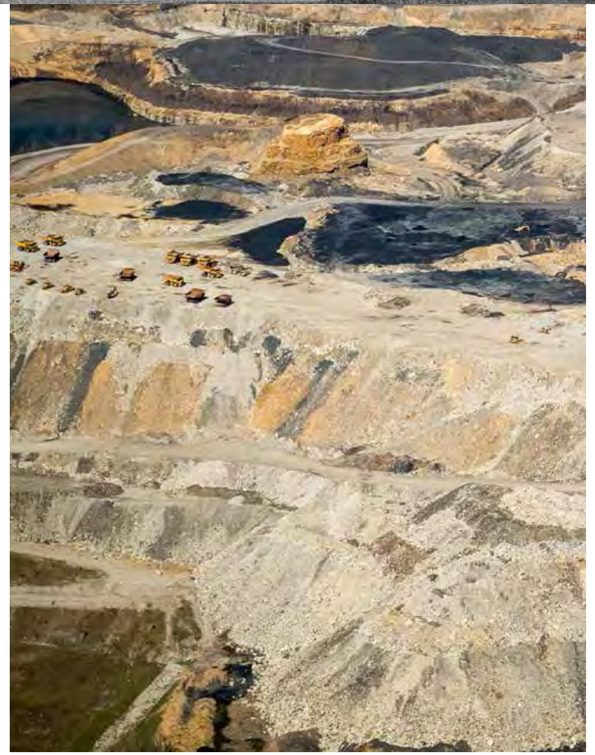


PHOTO: PAUL CORBIT BROWN

CASE STUDY

POLAND - BANKS FUNDING THE DIRTIEST FORM OF COAL

In Europe, attention on lignite coal, the dirtiest form of coal, is usually focused on Germany, the European Union's largest economy where, in spite of one of the world's most ambitious renewable energy transition programs, lignite still makes up 25% of the national power mix.[21] However, German lignite's days appear to be numbered, with major utilities now making consistent losses on it and the federal government due this summer to introduce an action plan aimed at reducing the country's greenhouse gas (GHG) emissions 95% below 1990 levels by 2050.[22] Moreover, a March 2016 analysis from **Barclays**, which takes into account EU GHG reduction targets and the low-carbon headwinds strengthened by the Paris agreement, finds for the German power sector "that very little coal and lignite could run by 2030."[23]

However, just across the border from Germany, Polish state-owned and private companies are pushing on with plans to develop a string of new open-pit lignite mines – with major financial support from some well-known banks. Since its entry into the EU in 2004, Poland has garnered – and even seemed keen to cultivate – a reputation for being the continent's number one climate wrecker.[24] Yet even so, the latest plans of two companies, Polska Grupa Energetyczne (PGE) and Zespół Elektrowni Patnów-Adamów-Konin (ZE PAK), take the breath away. Adding to the nine mines currently in operation, PGE and ZE PAK are now embarking on securing concessions for eight or nine further mine installations with potential reserves of nearly 8.5 billion tons of lignite, an amount greater than has ever been extracted and burned in Poland's history.[25]

Nonetheless, this final, spectacular lunge for lignite is taking place in a tough financial time for these companies – the state-owned PGE registered a net loss of EUR 680 million in 2015.[26] However, neither climate considerations nor the shaky financial positions of the companies seem to be deterring big bank investors. Banks including **BNP Paribas, Société Générale, ING, Citigroup, Commerzbank, UniCredit,** and **Santander** have been involved in recent bond and project finance transactions with the company. These have kept PGE afloat, even as a top banker at ING recently commented that project finance for new coal projects in Poland makes no sense.[27] Local protests are sprouting up all over Poland, and wider trans-European and global anti-coal movements such as Ende Gelände and Break Free are only going to increase the risks and losses for both lignite-dependent companies and their financial supporters.[28]

In the run up to COP 21 in Paris last year, BankTrack coordinated the first phase of the Paris Pledge campaign, asking banks to commit before the COP 21 summit to quit coal. The campaign was led by a core group of NGOs, including Friends of the Earth France, urgewald in Germany and Rainforest Action Network in the United States. It was also supported by 170 organizations, including Greenpeace, 350.org and Oxfam International, as well as by more than 10,000 individuals around the world. [29]

As a result of this campaign, 21 small and ethical banks signed the Paris Pledge, reaffirming their commitment to stay away from coal financing, and nine major international banks also took some first steps out of coal, moving in the right direction ahead of the Paris meeting.

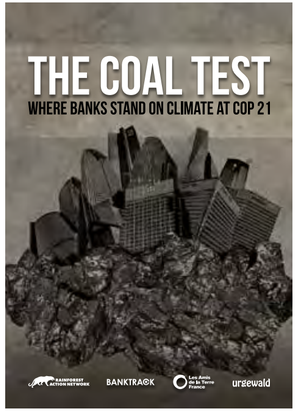
Most of these coal financing cuts came towards the end of 2015 and followed some significant campaigner wins on several coal mining dodgy deals in the first half of the year, including:

- French banks **BNP Paribas, Société Générale,** and **Crédit Agricole** committed not to finance any coal mining or coal export projects in the Galilee basin in Australia, the world's second largest "carbon bomb" after Chinese coal.[30]
- This was followed by **Standard Chartered** and **Commonwealth Bank** both withdrawing from the Carmichael mine project in the same region.
- Several banks including **Barclays, ING** and **BPCE/Natixis** announced that they would be cutting their financing for MTR mining in the United States.[31]

To achieve the goals laid out in Paris, the agreement commits all 195 nations to "making finance flows consistent with a pathway towards low greenhouse gas emissions and climate-resilient development."[32] Recent research by Climate Action Tracker makes it abundantly clear that this means the 2,440 coal plants currently on the drawing board around the world simply cannot be built.[33]

Since COP 21, there have been further signs of momentum from other international banks, with **Royal Bank of Scotland, UBS, JPMorgan Chase,** and **Deutsche Bank** all announcing coal financing cuts – of varying ambition – in the past few months. Analysis of these new coal commitments as well as those made before COP 21 reveals that though most of them reduce coal project finance, the vast majority of the policies only cover coal mining at the sector level, with very few addressing coal power at the sector level.

All of these banks and their peers now need to speed up in a race to the top and update or adopt financing policies in line with the Paris Agreement. Specifically, this entails an immediate end to coal project finance for international banks, similar to what was adopted by BPCE/Natixis and ING in 2015, and a speedy phase-out plan for the rest of their coal financing, while also making parallel climate-responsible commitments with oil and gas.



BANK RATINGS

This year's report card grades global bank policies and performance on coal mining finance on an A-through-F scale. Grades are scaled to reflect the degree of a bank's alignment with the Paris Agreement's 1.5° (or 2°) climate target, which will necessitate an end to new financing for and capital expenditure by the coal mining industry. Grades and grading criteria are summarized below. Full criteria can be found in Appendix 1, and bank grade explanations can be found online at www.ran.org/shortingtheclimate.

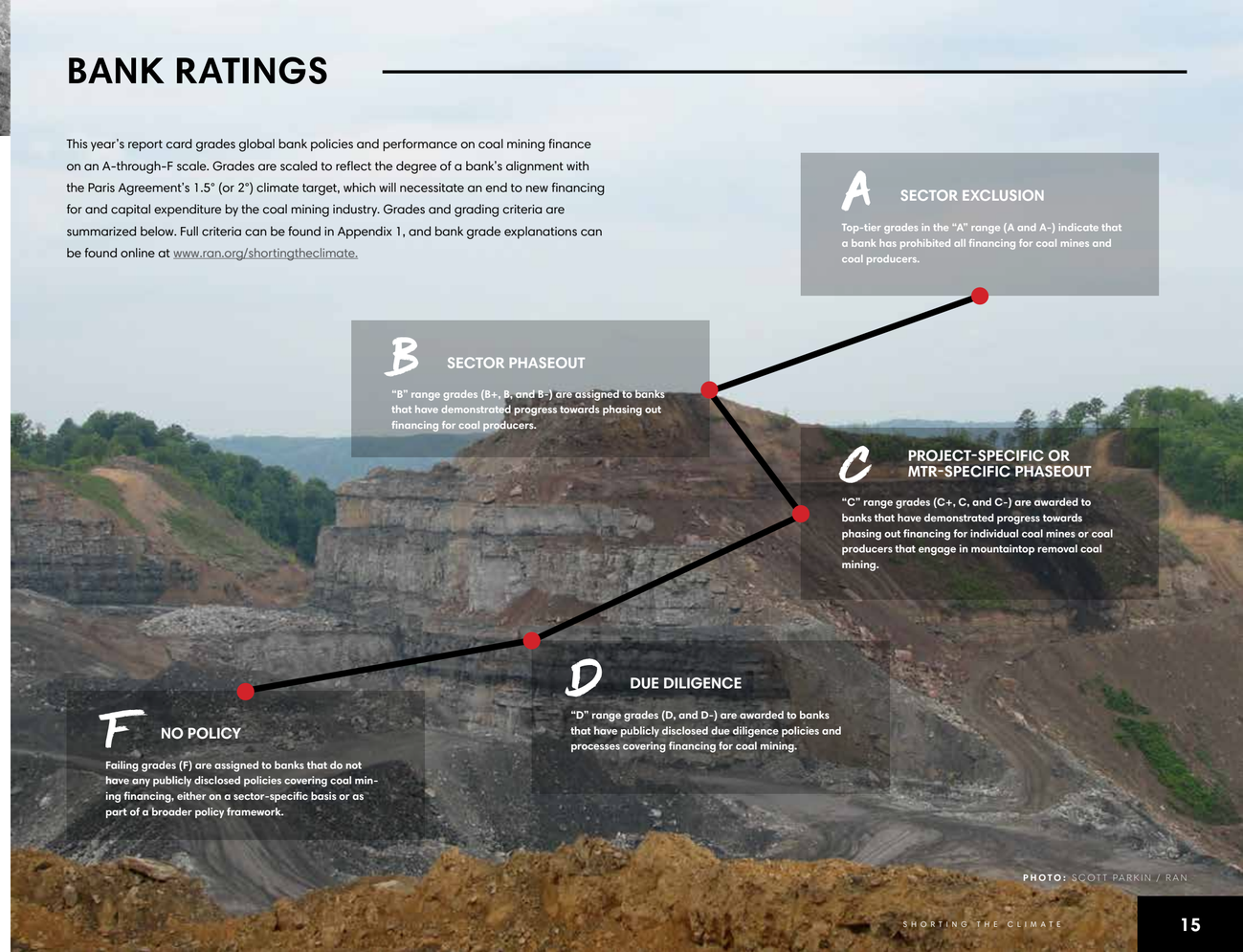


PHOTO: SCOTT PARKIN / RAN

COAL MINING GRADES

COMPANY	GRADE	COMPANY	GRADE
UNITED STATES		**EUROPE**	
BANK OF AMERICA	B-	BARCLAYS	C-
CITIGROUP	B-	BNP PARIBAS	C+
GOLDMAN SACHS	C-	BPCE/NATIXIS	B-
JPMORGAN CHASE	B-	CRÉDIT AGRICOLE	B-
MORGAN STANLEY	B-	CREDIT SUISSE	C-
PNC FINANCIAL	B-	DEUTSCHE BANK	C-
WELLS FARGO	B-	HSBC	D
CANADA		ING	C+
BANK OF MONTREAL	D-	ROYAL BANK OF SCOTLAND (RBS)	B-
CANADIAN IMPERIAL BANK OF COMMERCE [34]	N/A	SANTANDER	D-
ROYAL BANK OF CANADA (RBC)	D	SOCIÉTÉ GÉNÉRALE	C+
SCOTIABANK	F	UBS	C+
TD BANK [35]	N/A	UNICREDIT	D

COAL MINING BANK LEAGUE TABLES

RANK	BANK	2013-15 FINANCING	RANK	BANK	2013-15 FINANCING
1	DEUTSCHE BANK	$6.73 BILLION	14	CRÉDIT AGRICOLE	$1.01 BILLION
2	GOLDMAN SACHS	$5.67 BILLION	15	SOCIÉTÉ GÉNÉRALE	$0.96 BILLION
3	BANK OF AMERICA	$3.92 BILLION	16	RBS	$0.86 BILLION
4	CITIGROUP	$3.80 BILLION	17	BANK OF MONTREAL	$0.76 BILLION
5	BNP PARIBAS	$3.32 BILLION	18	ING	$0.61 BILLION
6	JPMORGAN CHASE	$2.65 BILLION	19	UNICREDIT	$0.31 BILLION
7	PNC FINANCIAL	$2.23 BILLION	20	BPCE/NATIXIS	$0.29 BILLION
8	CREDIT SUISSE	$1.98 BILLION	21	SANTANDER	$0.19 BILLION
9	WELLS FARGO	$1.71 BILLION	22	RBC	$0.02 BILLION
10	MORGAN STANLEY	$1.55 BILLION	23	SCOTIABANK	$6.42 MILLION
11	HSBC	$1.46 BILLION	24	CIBC	-
12	UBS	$1.16 BILLION	25	TD BANK	-
13	BARCLAYS	$1.11 BILLION			

COAL POWER

BACKGROUND ON COAL POWER

BLOWING PAST 1.5 AND 2 DEGREES

The world can no longer wait to move away from coal-fired electric power generation. By 2017, business-as-usual construction of coal plants will put the goal of limiting climate change to 2°C (let alone 1.5°) out of reach. Encouragingly, some countries have made progress towards shutting down coal plants and decarbonizing their energy grids. At the same time, a glut of climate-destroying coal plants is in the global pipeline. These plants will require billions of dollars in financing to build, making it imperative for global banks to stop financing coal power immediately.

In March 2016, a study by Oxford University researchers found that a critical global climate tipping point will be reached next year at the current rate of global coal plant construction. The study found that even if all other sectors of the global economy reduced their emissions consistent with 2°C of temperature increase, the lifetime emissions of planned and existing coal and gas plants would blow through this limit.[36] A separate study by Climate Action Tracker last December found that the current global pipeline of planned coal plants would result in the power sector exceeding emissions levels consistent with 2°C by 400%.[37] Finally, Coalswarm, Sierra Club, and Greenpeace found that 338 gigawatts (GW) of new coal capacity is under construction globally, while another 1,086 GW is planned. Ironically, most of these plants are in countries with excess power capacity and will likely be stranded assets.[38] Moreover, the health impacts of the air pollution from these new plants will be immense. For example, Indonesia's planned coal-fired power plant build-out would be associated with an estimated 21,200 additional premature deaths annually.[39]

Some countries have begun to transition away from coal-fired power, although this trend has not been enough to offset new coal capacity elsewhere. In the lead-up to COP 21, the United Kingdom committed to shuttering its coal plants by 2025, while Vietnam announced a halt to new coal plant construction in 2016.[40] In the United States, 232 coal plants have been retired or scheduled for retirement as of April 2016, as coal-intensive U.S. power producers face a troubled financial future.[41] With regulatory shifts such as the Clean Power Plan and competition from renewable energy and cheap natural gas, some have begged for public bailouts while others have waged a regulatory war on solar.[42]

Within the financial sector, several major public and private financial institutions have begun to acknowledge coal power's incompatibility with climate stabilization, even as they have been slow to act. Nearly all major European and U.S. banks continue to finance coal-intensive electric power producers. However, seven U.S. and European banks have prohibited financing for new coal plants in high-income countries, while requiring new coal plants in other countries to meet minimum efficiency thresholds. Yet a report published by World Wildlife Fund and Ecofys in April 2016 concludes that these policies are not enough. The study found that even if all planned coal plants worldwide were to use the best available high-efficiency, low-emissions technology, their emissions would still make even the 2° climate threshold impossible to achieve.[43] Overall, partial moves away from coal-fired energy are no longer sufficient, and financial institutions must therefore end — not reduce — their support for coal power.

Indonesia's planned coal-fired power plant build-out would be associated with an estimated 21,200 additional premature deaths annually.

CASE STUDY

RAMPAL - THE POSTERCHILD OF DESTRUCTIVE COAL POWER IN SOUTH ASIA

The Sundarbans mangrove forest is a UNESCO World Heritage site shared by Bangladesh and India. A joint venture between the two countries' national electricity providers is putting this precious biodiverse ecosystem at risk for a coal-fired power plant just 14 kilometers away from the forest's edge.

The Rampal coal plant will be — and already is — a human rights disaster. Construction has displaced hundreds of families without due process and threatens the livelihoods of locals who depend on the Sundarbans for agriculture and fishing.[44] In March 2016, hundreds marched from Dhaka to Rampal to protest the plant for the second time in three years — protests that the Bangladeshi government has ignored as it continues to insist the project has all the environmental clearance it needs.[45] Ironically, on top of exacerbating climate change by burning coal, Rampal will also threaten Bangladesh's first defense to the extreme storms that are becoming stronger and more frequent with climate change. Though the plant will lie on the Bangladeshi side of the forest, the project is Indian-backed: Bharat Heavy Electricals Ltd. will build the $1.8 billion plant with debt financing amounting to $1.6 billion from the **Indian Export-Import bank**.[46]

The National Thermal Power Corporation (NTPC), the Indian joint venture partner proposing the plant, operates 18 coal plants in India, making it the largest power utility in the country.[47] The company has considerable expansion plans in India and in neighboring countries such as Sri Lanka and Bangladesh.[48] With these expansion plans, NTPC ranks seventh highest in a list of over 600 companies developing new coal-fired power plants.[49] The company has been involved in many scandals, including mercury poisoning,[50] illegal wastewater discharging,[51] inappropriate coal ash disposal,[52] and corruption allegations in India and abroad.[53] In fact, as of April 2016, NTPC was under investigation by the Indian government for over-invoicing coal imports.[54]

The underwriting of NTPC's loans and bonds has been carried out by Indian, Western and Japanese banks including **BNP Paribas, HSBC, KFW, Barclays, Citigroup , Deutsche Bank, Sumitomo Mitsui,** and **Mizuho.**

PHOTO: MAMUNUR RASHID / DEMOTIX / CORBIS

CASE STUDY

INDONESIA'S BID FOR COAL EXPANSION

Over the past decade, Indonesia has undergone a major coal mining boom. The country has now announced plans to secure a market for its own coal by significantly expanding domestic coal power generation.

The Indonesian archipelago is an incredible center of biological diversity, with an abundance of fauna and flora in its great rainforests. Alarmingly, the nation's coal industry is centered in Kalimantan (Indonesian Borneo) and Sumatra, both home to many at-risk species, including the iconic endangered orangutan. Most of Indonesia's coal mines are open-pit, cover vast areas, and require large-scale deforestation. A report by Brussels-based NGO Fern estimates that some 8.6 million hectares of forest is threatened by coal mining in Indonesia.[55]

Currently the number one coal exporter in the world, Indonesia exported 410 million tons of coal in 2014.[56] Moreover, the government has been able to over-allocate mining concessions to coal mining companies as part of its non-transparent permitting process — even in protected forest areas.[57]

Indonesia has been consolidating its mining permit process over the past two years with the introduction of the "clean and clear" certification system. This process was initiated to ensure that all locally licensed mines were in compliance with basic laws, including conducting environmental impact assessments and paying taxes. Around 40% of permits were found to be not "clean and clear."[58]

In February 2016, the Indonesian Corruption Eradication Commission announced that local authorities revoked 478 coal mining permits. Two days later, the Financial Services Authority ordered Indonesian banks to stop lending to coal mining projects in East Kalimantan, where 28% of Indonesia's coal reserves are located.[59]

At the heart of Kalimantan's coal industry sits Samarinda, the capital of East Kalimantan, where every few minutes, coal barges — each carrying up to 8,000 tons of coal — travel down the Mahakam River destined for export to China, India, South Korea and Japan.

Indonesia's coal industry is economically threatened by the global slump in coal demand.[60] The government aims to secure a market for the nation's coal industry and has announced a build-out of 119 new coal-fired power plants, with a capacity of 45GW.[61] One particularly controversial project is the Batang coal-fired power plant, which has been fiercely protested by locals and infringes on a marine protected area. The **Japanese Bank for International Cooperation**, as well as other Japanese private banks, recently decided to finance this enormous coal plant.[62] Similarly contentious is the TJB2 project, which **Crédit Agricole** and **Société Générale** are considering financing. [63]

PHOTO: AMANDA STARBUCK / RAN

PHOTOS: ALENA EBLING-SCHULD ; AMANDA STARBUCK / RAN

BANK RATINGS

As with other sectors, this year's report card grades global bank financing policies for the electric power sector on an A-through-F scale. A rapid transition away from coal-fired energy will be critical to limit climate change to 1.5° (or 2°). Grades assess each bank's alignment with this transition. Full criteria can be found in Appendix 1, and bank grade explanations can be found online at www.ran.org/shortingtheclimate.

A SECTOR EXCLUSION

Banks with grades in the "A" range (A and A-) have prohibited all financing for coal power plants and electric power producers with significant coal power-generating capacity.

B SECTOR PHASEOUT

"B" range grades (B+, B, and B-) are assigned to banks that are reducing or phasing out financing for electric power producers with significant coal power-generating capacity.

C COAL PLANT FINANCING EXCLUSION

"C" range grades (C+, C, and C-) indicate that banks restrict or prohibit financing for new coal power plants.

D DUE DILIGENCE OR EFFICIENCY THRESHOLDS

"D" range grades (D+, D, and D-) are awarded to banks that have publicly disclosed due diligence policies and processes covering financing for electric power producers or efficiency requirements for new coal plants.

F NO POLICY

Failing grades (F) are assigned to banks that do not have any publicly disclosed policies covering coal power financing, either on a sector-specific basis or as part of a broader policy framework.

PHOTO: ALEX DOUKAS / OIL CHANGE INTERNATIONAL

COAL POWER

GRADES

COMPANY	GRADE	COMPANY	GRADE
UNITED STATES		**EUROPE**	
BANK OF AMERICA	D	BARCLAYS	D
CITIGROUP	D+	BNP PARIBAS	B-
GOLDMAN SACHS	C	BPCE/NATIXIS	B-
JPMORGAN CHASE	C	CRÉDIT AGRICOLE	C
MORGAN STANLEY	C	CREDIT SUISSE	D-
PNC FINANCIAL	D+	DEUTSCHE BANK	D+
WELLS FARGO	D	HSBC	C
CANADA		ING	C+
BANK OF MONTREAL	D-	ROYAL BANK OF SCOTLAND (RBS)	B-
CANADIAN IMPERIAL BANK OF COMMERCE	F	SANTANDER	D-
ROYAL BANK OF CANADA (RBC)	D-	SOCIÉTÉ GÉNÉRALE	C
SCOTIABANK	F	UBS	D
TD BANK	D-	UNICREDIT	D

COAL POWER

BANK LEAGUE TABLES

RANK	BANK	2013-15 FINANCING	RANK	BANK	2013-15 FINANCING
1	CITIGROUP	**$24.06 BILLION**	14	SOCIÉTÉ GÉNÉRALE	**$4.45 BILLION**
2	BARCLAYS	**$13.44 BILLION**	15	UBS	**$4.35 BILLION**
3	JPMORGAN CHASE	**$13.41 BILLION**	16	CRÉDIT AGRICOLE	**$4.18 BILLION**
4	BANK OF AMERICA	**$10.85 BILLION**	17	HSBC	**$3.97 BILLION**
5	RBS	**$10.11 BILLION**	18	UNICREDIT	**$3.65 BILLION**
6	RBC	**$7.93 BILLION**	19	SANTANDER	**$3.25 BILLION**
7	WELLS FARGO	**$7.62 BILLION**	20	BPCE/NATIXIS	**$3.22 BILLION**
8	MORGAN STANLEY	**$6.59 BILLION**	21	GOLDMAN SACHS	**$3.00 BILLION**
9	BNP PARIBAS	**$6.44 BILLION**	22	BANK OF MONTREAL	**$0.96 BILLION**
10	DEUTSCHE BANK	**$6.19 BILLION**	23	PNC FINANCIAL	**$0.51 BILLION**
11	SCOTIABANK	**$5.38 BILLION**	24	CIBC	**$0.18 BILLION**
12	CREDIT SUISSE	**$5.14 BILLION**	25	TD BANK	**$0.06 BILLION**
13	ING	**$4.91 BILLION**			

EXTREME OIL

PHOTO: U.S. COAST GUARD

BACKGROUND ON EXTREME OIL

SUBSECTORS IN RETREAT

After Paris, investors are now taking a hard look at the most capital expenditure-intensive fossil fuel — oil. And it's the most expensive and environmentally destructive forms of oil — tar sands, Arctic drilling and ultra-deepwater drilling — that increasingly look like the worst of the worst prospects. The very high cost of projects in these subsectors make them likely to end up as stranded assets as carbon regulations come online in the coming years. Effectively, any major extreme oil project is a huge bet that the world won't address climate change.[64] Those wagers look increasingly risky.

Each subsector faces fierce climate movement opposition, a collapse in political support, and weak economic fundamentals, as events of the last twelve months have shown. As detailed in a case study in this section, late 2015 saw Shell abandon offshore drilling in the Arctic in the face of acute activist pressure and in the aftermath of a long string of technical failures.[65]

In November 2015, its hand forced by the climate movement, the Obama administration dealt tar sands a serious setback by rejecting TransCanada's Keystone XL pipeline.[66] If the project had been fully built, it would have carried 800,000 barrels a day of toxic tar sands bitumen from Alberta, Canada across the United States — but still, when first proposed, it looked like it was going to be yet another rubber-stamped pipeline. Instead, after seven years of relentless pressure from Indigenous and frontline groups and the climate movement at large, it became the first piece of fossil fuel infrastructure to be rejected because it would hasten climate change.

The Keystone XL decision set a powerful precedent for blocking future infrastructure projects on climate grounds and made it clear that the whole tar sands subsector is operating on shaky foundations.[67] As a major study found last year, the North American tar sands system will run out of capacity by 2017, and every major proposed new pipeline faces intense, broad-based public opposition.[68] Thus, there is no investment case to build out tar sands extraction capacity. All of this occurred against the backdrop of an ongoing historic plunge in oil prices, even as extreme oil projects continue to require exceptionally high oil prices to have any investment rationale. Deepwater drilling has already been hit especially hard, with a stunning 29 deepwater projects deferred in 2015.[69] Banks that bet big on oil before the current price slump are now scrambling to reassure investors that their mounting losses are not a cause for concern.[70] The biggest oil and gas companies hold reserves worldwide for ultra-deepwater drilling — including in the Gulf of Mexico, where some of the nation's poorest states have served as an energy sacrifice zone for the rest of the country.[71]

If climate goals are going to be achieved, governments and private investors will need to turn away from extreme oil and channel their policy and financial support toward efficiency and alternatives. There is no room for more carbon-intensive and destructive oil production in a world moving toward decarbonization.

Effectively, any major extreme oil project is a huge bet that the world won't address climate change.

CASE STUDY

TAR SANDS - TECK'S FRONTIER TAR SANDS MINE

The global slump in oil prices during 2015 and 2016 has slowed the expansion of the Canadian tar sands to a crawl. Reacting to the slew of cancelled and delayed projects across Alberta, one executive at tar sands giant Suncor declared that "the years of large, multibillion-dollar projects are probably gone."[72] However, one new entrant to the tar sands industry, Vancouver-based Teck Resources, has fought this trend and continues to bet on an oil price rebound. Although the company announced that it had delayed its Frontier tar sands mining megaproject last year, it still plans to begin construction on the $16.2 billion project in 2019.[73]

From a financial perspective, the project makes little sense due to its extremely high costs. Analysis from the Institute for Energy Economics and Financial Analysis and Oil Change International concluded that the first phase of the project would lose money unless oil prices rise above the extremely high threshold of $140 per barrel.[74] With Teck's deteriorating financial position (its stock is down more than 75% over the last five years) and its lack of experience with operating a tar sands mine, Frontier is a stranded asset in the making.

Teck has also pursued the Frontier project without respecting the rights of Indigenous communities. Multiple First Nations, including the Alberta Chipewyan First Nation and the Mikisew Cree First Nation, have opposed the project and raised concerns about its impacts on the environment and on their treaty rights, traditional lands, health, and livelihoods.[75] In addition, the Frontier mine would be 25 kilometers away from Wood Buffalo National Park,[76] a UNESCO World Heritage Site. This has prompted the UNESCO World Heritage Committee to announce an investigation on the mine's potential impacts on the park. Several banks that have financed Teck since 2013 have commitments not to finance companies that do not obtain free, prior, and informed consent (**JPMorgan Chase**) or consultation (**Royal Bank of Canada**) for projects with potential impacts on Indigenous communities or projects that would impact World Heritage Sites or critical natural habitats (**Bank of Montreal, JPMorgan Chase, Royal Bank of Canada,** and **TD Bank**).[77]

PHOTO: DAVID DODGE/ PEMBINA INSTITUTE

CASE STUDY

THE ARCTIC OCEAN - NO PLACE TO DRILL

The Beaufort and Chukchi Seas make up the Arctic Ocean north of Alaska and are one of the most unique marine ecosystems in the world. These waters are home to the entire U.S. population of polar bears and have consequently been designated a critical habitat.[78] Here, sea ice meets the northern edge of the continent and animals congregate in great numbers. In addition to polar bears, this bountiful zone is home to millions of migratory birds, Pacific walrus, ice seals, beluga whales, and endangered bowhead whales. It has been called the "Arctic Ring of Life."[79] But aggressive oil and gas industry interest, led by Shell, to lease these areas for exploration and development threatens this natural area and the livelihood of Alaska Native communities.

The Arctic is already paying the price for our fossil fuel addiction. Northern Alaska is warming at twice the rate of the rest of the world.[80] The people of the Arctic are affected by climate disruption every day by the loss of sea ice, changes in animal abundance and behavior, and the loss of important subsistence opportunities. Sea ice that provides vital habitat for polar bears is melting rapidly; summer sea ice may be gone by mid-century, and polar bears could be extinct in the wild by 2100.[81] Any new industrial development in these waters would only compound the effects of climate disruption on wildlife and Alaska Native peoples.

With the current climate disruption in the Arctic, dangerous offshore drilling will only worsen the damage, threatening this fragile landscape with a one-two punch: there is no proven way to clean up an oil spill in this unique area. The extreme, icy conditions of the Arctic Ocean, coupled with the remoteness of the region and the lack of oil spill quick-response capacity makes drilling too risky. Moreover, drilling for the Arctic Ocean oil and gas deposits could unlock as much as 15.8 billion tons of new carbon dioxide pollution, pushing the planet's climate further over the brink.[82]

After paying over $2 billion for leases in both the Chukchi and Beaufort Seas in 2008, Shell demonstrated just how foolhardy Arctic drilling is. The company's drill rigs were chased off by drifting ice packs, and one was ultimately destroyed by a winter storm during transport. Shell also struggled to live up to the regulations imposed by the Department of Interior and ultimately had to pay millions of dollars in penalties for breaking the law.[83] Most importantly, Shell's effort to drill in the Arctic ignited a public movement, with thousands of "kayaktivists" taking to the water in mass public demonstrations to keep the Arctic's oil in the ground.[84]

Ultimately the perfect storm of difficult drilling conditions, public pressure and poor economics caused Shell and the other leaseholders in the Arctic Ocean to abandon their plans in September 2015.[85] Deutsche Bank called this failure "a very costly error for the company both financially and reputationally."[86] Less than two months later a group of banks — including **Bank of America, Barclays, BNP Paribas, Canadian Imperial Bank of Commerce, Citigroup, Crédit Agricole, Credit Suisse, Deutsche Bank, Goldman Sachs, HSBC, JPMorgan Chase, Morgan Stanley, Royal Bank of Canada, Royal Bank of Scotland, Santander, Société Générale,** and **UBS** — extended Shell's $7.48 billion revolving credit facility.

Now there is the opportunity for the Obama administration to put the Arctic permanently off-limits to oil and gas development. The Arctic is the last place we should be looking for new fossil fuels.

PHOTO: NOAA

BANK RATINGS

Extreme oil projects include Arctic, tar sands (also known as oil sands), and ultra-deepwater operations. As with financing for other fossil fuel subsectors highlighted in this report, bank financing for companies involved in extreme oil extraction is graded on an A-through-F scale. Full criteria can be found in Appendix 1, and bank grade explanations can be found online at www.ran.org/shortingtheclimate.

A EXTREME OIL EXCLUSION

"A" grades (A and A-) indicate that a bank has prohibited all financing for tar sands, Arctic oil, and ultra-deepwater oil projects as well as for companies engaged in these types of oil production.

B EXTREME OIL PHASEOUT

"B" grades (B+, B, and B-) are for banks that are reducing or phasing out financing for companies with current or planned tar sands, Arctic oil, and ultra-deepwater oil operations.

C PROJECT-SPECIFIC EXCLUSION

"C" range grades (C+, C, and C-) are awarded to banks that restrict or prohibit financing for tar sands, Arctic oil, and ultra-deepwater oil projects.

D DUE DILIGENCE

"D" range grades (D+, D, and D-) are awarded to banks that have publicly disclosed due diligence policies and processes covering financing for tar sands, Arctic oil, and ultra-deepwater oil projects or companies engaged in these types of oil production.

F NO POLICY

Failing grades (F) are assigned to banks that do not have any publicly disclosed policies covering tar sands, Arctic oil, or ultra-deepwater oil financing, either on a sector-specific basis or as part of a broader policy framework.

PHOTO: NASA EARTH OBSERVATORY

PHOTOS: U.S. FISH AND WILDLIFE SERVICE; MATT MAIORANA / OIL CHANGE INTERNATIONAL

EXTREME OIL GRADES

COMPANY	GRADE	COMPANY	GRADE
UNITED STATES		**EUROPE**	
BANK OF AMERICA	D-	BARCLAYS	D-
CITIGROUP	D+	BNP PARIBAS	D
GOLDMAN SACHS	D	BPCE/NATIXIS	F
JPMORGAN CHASE	D	CRÉDIT AGRICOLE	C
MORGAN STANLEY	D-	CREDIT SUISSE	D
PNC FINANCIAL [87]	N/A	DEUTSCHE BANK	D-
WELLS FARGO	D+	HSBC	D
CANADA		ING	C
BANK OF MONTREAL	D-	ROYAL BANK OF SCOTLAND (RBS)	C
CANADIAN IMPERIAL BANK OF COMMERCE	F	SANTANDER	D-
ROYAL BANK OF CANADA (RBC)	D-	SOCIÉTÉ GÉNÉRALE	D-
SCOTIABANK	F	UBS	D
TD BANK	D-	UNICREDIT	F

EXTREME OIL BANK LEAGUE TABLES

RANK	BANK	2013-15 FINANCING	RANK	BANK	2013-15 FINANCING
1	JPMORGAN CHASE	$37.77 BILLION	14	BANK OF MONTREAL	$6.11 BILLION
2	RBS	$33.97 BILLION	15	WELLS FARGO	$6.05 BILLION
3	BARCLAYS	$26.49 BILLION	16	CREDIT SUISSE	$4.86 BILLION
4	BANK OF AMERICA	$24.85 BILLION	17	CRÉDIT AGRICOLE	$4.66 BILLION
5	MORGAN STANLEY	$23.57 BILLION	18	UBS	$4.43 BILLION
6	HSBC	$24.11 BILLION	19	SCOTIABANK	$4.11 BILLION
7	CITIGROUP	$23.37 BILLION	20	TD BANK	$3.86 BILLION
8	BNP PARIBAS	$14.68 BILLION	21	SANTANDER	$3.47 BILLION
9	DEUTSCHE BANK	$14.55 BILLION	22	UNICREDIT	$1.52 BILLION
10	GOLDMAN SACHS	$13.16 BILLION	23	ING	$0.78 BILLION
11	CIBC	$11.60 BILLION	24	BPCE/NATIXIS	$0.65 BILLION
12	RBS	$9.84 BILLION	25	PNC FINANCIAL	-
13	SOCIÉTÉ GÉNÉRALE	$8.31 BILLION			

BACKGROUND ON LNG

DOUBLING DOWN ON DANGER

What is now known as the "shale gas revolution" began around 2007, when new technologies to horizontally drill for gas and other fossil fuels became profitable and widespread. Natural gas production skyrocketed in the United States. Almost as quickly as "fracking" (hydraulic fracturing) entered the common vernacular, there emerged a movement of citizens, cities, and states in opposition to this risky, carbon- and water-intensive practice.[88] This political opposition, combined with growing uncertainty about the true recoverability potential of shale, raised serious questions for investors.[89]

Banks went in on this fracking gamble – and lost big. Steady oil production in the Middle East meant oil prices continued to drop, which made fracking less and less profitable, and pushed energy company bonds to junk status.[90]

Faced with a glut of gas, the U.S. market pivoted toward liquefied natural gas, which is fracked gas that is chilled and pressurized into a liquid so it can be transported overseas. Producers bet that exporting LNG would relieve the pressure valve on the market and raise the distressingly low price of domestic gas. Most importantly to U.S. gas producers, it would solve the existential crisis renewables pose to U.S. fracking by keeping the market alive. In the past five years, industry has doubled down on LNG export, applying for permits to convert existing regasification facilities for LNG import to liquefaction terminals for export.

The industry made this 180-degree turn with stunning velocity and bullishness. Currently, there are around 50 proposed, approved, or existing LNG export facilities in North America – the vast majority situated along the U.S. Gulf Coast. These facilities were built on assumptions that oil and gas prices will rise significantly and that foreign markets would be hungry to absorb the U.S. excess. These assumptions are not coming true, highlighting the financial risks inherent in this extreme LNG export buildout.[91]

Although once the LNG is extracted, piped, compressed, shipped, decompressed and distributed in its new host country it will burn with fewer emissions than coal, the hugely energy-intensive process is a climate disaster. In 2014 the U.S. Department of Energy found that the climate benefits of exported LNG barely break even with coal power generation over a 20 year time frame — and that's from an analysis that assumes an unrealistically low methane leakage rate.[92] The Environmental Protection Agency's newest emissions inventory finds methane emissions from the oil and gas sector are higher than previous estimations, while a meta-study out of Stanford found that official leakage estimates are significantly lower than what is observed.[93] Taking into account more realistic leakage rates, exported LNG comes out worse than coal as a power source. LNG export terminals also pollute the air and water of surrounding communities and have harmful impacts on wetlands, which act as crucial protective barriers for the storms that plague the Gulf Coast.

The Federal Energy Regulatory Commission (FERC) is the U.S. agency in charge of approving and overseeing LNG facilities.[94] FERC's mandate is to ensure that infrastructure is only built if there is a public necessity. In March, FERC rejected the proposed Jordan Cove LNG Export Terminal and Pacific Connector Pipeline in Oregon for failing to meet this requirement.[95] Since then, FERC has responded to company appeals by extending the application period[96] – a decision which, unfortunately, surfaces as an exception to FERC's pattern of generous approval of LNG export projects. FERC has lost sight of its mandate – to regulate the U.S. energy market and ensure public necessity for proposed infrastructure – if industry companies can convince the agency to help them out of the hole they've dug themselves.

Taking into account more realistic leakage rates, exported LNG comes out worse than coal as a power source.

CASE STUDY

DEFENDING THE LAST CLEAN BEACH IN TEXAS

The Rio Grande Valley along the Texas and Mexico border is a diverse community, situated on the last untouched beach on the Texas Gulf Coast without an industrial city on the horizon. People drive for miles to experience the pristine waterway, and the cities in the Valley rely on the clean air and water of the region to survive. The region's population of 1.3 million people is 90% Latino and contains the poorest and second-poorest metropolitan areas in the United States.[97] Three liquefied natural gas, or fracked-gas, export facilities are threatening this environment and the Latino community that calls the Rio Grande Valley home.

Texas LNG, Annova LNG, and Rio Grande/Next Decade LNG have all requested permission from FERC to begin construction on three separate, but equally dangerous, fracked-gas export facilities immediately next to one another on the Brownsville Port. Familiar banks are behind these projects: **BNP Paribas** is raising finances for Texas LNG's terminal, while **Sumitomo Mitsui Banking Corporation** is making the arrangements for the Next Decade project.[98] The most recent bond transaction by Annova LNG's parent company was led by **Barclays, Citigroup, Credit Suisse, JP Morgan,** and **Morgan Stanley**.[99]

These facilities aren't small. A single ship pulling into the port is three football fields long, which means huge impacts on the fisherfolk aboard the 300 shrimper boats who rely on the river and coast for their livelihoods.[100] In an area where about 50% of children live in households below the poverty level and depend on food stamps, every source of income counts.[101]

These LNG hazards are not limited to just the Valley: the projects also include several new railway systems and a 140-mile-long new pipeline that stretches to the Eagle Ford Shale, one of the largest gas deposits in the United States reaching from the U.S.-Mexico border to Austin, Texas. The pipeline will demand 4.5 billion cubic feet of fracked gas daily from underneath the communities on the shale formation.[102] With over 20,000 fracking leases that have been issued for the Eagle Ford Shale since 2008 — this averages to about seven leases approved per day for the past eight years — this new pipeline will severely increase exploitation of this shale region.[103]

Methane, or fracked gas, is highly explosive. The "blast zone" — the area that would be under direct threat from an explosion — is a two mile radius around these facilities. Port Isabel, the closest town to these pipelines, barges, processing facilities and storage tanks, has four schools and over 7,000 mostly low-income and Latino people who would be forced to evacuate on a bottlenecked road or risk driving directly through the flame to escape.[104] "Bomb trains" are filled with highly explosive oil or gas and travel directly through Brownsville residents' backyards — many have exploded and killed people.[105]

These bomb-like facilities are proposed next to the largest wetland restoration project in North American history, the Bahia Grande.[106] Home to the endangered ocelot species and many types of birds, conservationists fear that the intense train, construction, light and noise pollution will drive these populations into extinction.[107] The area is also host to South Padre Island, a key ecotourism location for Texas. These LNG export facilities place all this at risk of an explosion and are threatening one of the few major industries that could help the Rio Grande Valley avoid the dangerous development that has ruined the Texas coastline.

PHOTO: SAVE RGV FROM LNG

CASE STUDY

AUSTRALIA'S LNG DREAMS

Over the past five years, Australia has been chasing a dream: to become the world's number one exporter of LNG. This pursuit has mirrored many of the recent mistakes of coal exporters, and the dream is becoming a nightmare, both environmentally and economically.

LNG export plants do not come cheap. The six largest projects in Australia now amount to over AU$200 billion, with Chevron's Gorgon LNG project alone wearing a AU$72 billion price tag.[108] Cost overruns and delays have made matters worse — a 20% cost blowout and a 12-month delay would be an LNG plant performing relatively well. Banks have been heavily relied upon to finance this LNG export construction boom: the Ichthys project near Darwin was financed with the largest debt package in Australian history (US$20 billion from over 40 institutions),[109] while the **U.S. Export Import Bank, China's Export Import Bank**, and a host of U.S., European, Asian, and Australian banks are exposed to the three LNG export plants recently built on Curtis Island, off the coast of Gladstone.[110]

The rush to be part of the anticipated LNG boom has saddled many project proponents with billions of dollars in debt. The delays and cost blowouts have not helped, and if proponents had expected light at the end of the tunnel, the completion of many LNG projects has arrived as the oil price fell by almost 70% in two years. In 2014 and 2015, both Origin Energy and Santos, owners of LNG export plants on Curtis Island, received credit downgrades from Standard and Poor's as the ratings agency acknowledged the companies' major debt burdens (a result of the LNG buildout) and exposure to a weak oil/LNG price.[111] In January 2016, Santos was downgraded a second time to BBB-, joining Origin at one level above junk grade.[112]

The energy intense Ichthys LNG project in the Northern Territory is expected to produce 7.7 million tons per year, on average, of CO_2 before the gas even leaves Australia.[113] Queensland's LNG plants can expect to have an even greater footprint, given that the source is unconventional coal seam gas, which produces large amounts of fugitive methane emissions. The extraction of coal seam gas, often through highly intensive methods such as fracking, is also a major risk to agricultural communities and water resources in Australia's food bowl.

In addition, the three recently constructed LNG plants on Curtis Island near Gladstone are in the Great Barrier Reef World Heritage Area. Dredging and dumping to facilitate construction caused massive environmental damage to Gladstone Harbour. Such was the environmental damage to the World Heritage Site that an emergency monitoring mission from UNESCO visited the Reef in 2012, scathing of the decision to approve the LNG plants.

Australia's LNG export industry has mirrored the coal industry's mistakes of recent years: rush to seize an apparent boom, heavily overinvest at high cost, and build far more supply capacity than is likely to be needed. The prospect of the United States attempting its own LNG buildout to supply a global market will be even worse news for Australian producers, while the potential for increased supply from Australia will undercut the market for new U.S. entrants. Either way, it is likely that major, multi-billion-dollar stranded assets have already been built.

PHOTO: VYTAUTAS KIELAITIS / SHUTTERSTOCK

PHOTOS: SHUTTERSTOCK; SAVE RGV FROM LNG; GREENSMPS

BANK RATINGS

As with extreme oil extraction, liquefied natural gas terminal construction in North America and elsewhere is incompatible with stabilizing the climate below the Paris Agreement's climate targets.[14] This surge of new LNG export projects has attracted considerable financing from banks, which have steered billions of dollars toward these costly, risky projects to export a fuel with an immense carbon footprint.

Grades for LNG export finance have been assigned according to an A-through-F scale. Full criteria can be found in Appendix 1, and bank grade explanations can be found online at www.ran.org/shortingtheclimate.

A LNG EXPORT EXCLUSION

Banks can earn "A" grades (A and A-) by prohibiting financing for LNG export projects as well as for companies engaged in terminal construction or operation.

B LNG EXPORT PHASEOUT

"B" grades (B+, B, and B-) are for banks that are reducing or phasing out financing for companies building or operating LNG export terminals.

C PROJECT-SPECIFIC EXCLUSION

"C" range grades (C+, C, and C-) are awarded to banks that restrict or prohibit financing for LNG export projects.

D DUE DILIGENCE

"D" range grades (D+, D, and D-) are awarded to banks that have publicly disclosed due diligence policies and processes covering financing for LNG export projects or terminal operators.

F NO POLICY

Failing grades (F) are assigned to banks that do not have any publicly disclosed policies covering LNG export, either on a sector-specific basis or as part of a broader policy framework.

LNG EXPORT GRADES

COMPANY	GRADE	COMPANY	GRADE
UNITED STATES		**EUROPE**	
BANK OF AMERICA	D-	BARCLAYS	D-
CITIGROUP	D-	BNP PARIBAS	F
GOLDMAN SACHS	D-	BPCE/NATIXIS	F
JPMORGAN CHASE	D-	CRÉDIT AGRICOLE	D
MORGAN STANLEY	D-	CREDIT SUISSE	D-
PNC FINANCIAL	D-	DEUTSCHE BANK	D-
WELLS FARGO	D-	HSBC	D-
CANADA		ING	D-
BANK OF MONTREAL	D-	ROYAL BANK OF SCOTLAND (RBS)	D-
CANADIAN IMPERIAL BANK OF COMMERCE	F	SANTANDER	D-
ROYAL BANK OF CANADA (RBC)	D-	SOCIÉTÉ GÉNÉRALE	D-
SCOTIABANK	F	UBS	D-
TD BANK	D-	UNICREDIT	F

LNG EXPORT BANK LEAGUE TABLES

RANK	BANK	2013-15 FINANCING	RANK	BANK	2013-15 FINANCING
1	JPMORGAN CHASE	**$30.58 BILLION**	14	CREDIT SUISSE	**$9.00 BILLION**
2	BANK OF AMERICA	**$29.61 BILLION**	15	SOCIÉTÉ GÉNÉRALE	**$7.47 BILLION**
3	BARCLAYS	**$26.33 BILLION**	16	CRÉDIT AGRICOLE	**$6.68 BILLION**
4	CITIGROUP	**$25.89 BILLION**	17	UBS	**$5.55 BILLION**
5	HSBC	**$21.29 BILLION**	18	ING	**$2.93 BILLION**
6	MORGAN STANLEY	**$19.23 BILLION**	19	SANTANDER	**$2.82 BILLION**
7	DEUTSCHE BANK	**$15.69 BILLION**	20	BPCE/NATIXIS	**$1.98 BILLION**
8	BNP PARIBAS	**$14.72 BILLION**	21	TD BANK	**$1.29 BILLION**
9	RBS	**$14.50 BILLION**	22	UNICREDIT	**$1.02 BILLION**
10	WELLS FARGO	**$13.33 BILLION**	23	CIBC	**$0.59 BILLION**
11	GOLDMAN SACHS	**$11.69 BILLION**	24	PNC FINANCIAL	**$0.18 BILLION**
12	SCOTIABANK	**$10.45 BILLION**	25	BANK OF MONTREAL	**$0.13 BILLION**
13	RBC	**$9.53 BILLION**			

HUMAN RIGHTS

PHOTO: ARDILES RANTE/GREENPEACE

BACKGROUND ON HUMAN RIGHTS

FAILURES IN BANK POLICY AND PRACTICE

With rare exceptions, banks continue to fall woefully short on human rights policies. The U.N. Guiding Principles on Business and Human Rights set out authoritative global standards concerning corporations' — including banks' — human rights obligations.[115] Banks must respect human rights: they must conduct robust due diligence to ensure that none of their transactions, from project finance to debt underwriting, support projects that infringe on human rights. And they must support *remedy* for victims when rights abuses do occur. By and large, banks still fail to recognize these obligations at the level of policy.[116]

This huge policy gap is resulting in systematic failures in the practice of human rights due diligence and remediation — identifying, preventing and addressing human rights abuses. This leaves banks complicit in human rights abuses across the whole range of fossil fuels.

To name just a few examples, coal mining has led to abuses by contracted security forces, forced displacement, and abuses of the rights to water and a healthy environment.[117] Coal-fired power plants have impacted the right to health of local communities. Tar sands oil and Arctic drilling have impacted or threatened the rights to health, culture and livelihood of Indigenous communities, and drilling has been conducted on the back of serial violations of the right to free, prior and informed consent. Even six years after BP's Deepwater Horizon disaster, ultra-deepwater drilling brings threats of spills that abuse coastal people's rights to health and livelihood. LNG export infrastructure puts coastal communities at risk of explosions, while threatening their rights to clean water.

But taking the long view, the last year's most significant development regarding human rights and fossil fuels may be the emerging recognition that climate change is itself a human rights issue.[118] Climate change — as well as the extraction, transportation, and combustion of fossil fuels — is increasingly impacting the human rights to water, food, health, housing, and more. In the years to come, this growing recognition will add urgency to the need for banks to reform their human rights policies and practices as they strive to meet their obligations to prevent runaway global warming.

The last year's most significant development regarding human rights and fossil fuels may be the emerging recognition that climate change is itself a human rights issue.

PHOTO: SAVE RGV FROM LNG

BANK RATINGS

This year's report card grades global banks on human rights against an A-through-F scale. As we noted in the 2015 Report Card, many fossil fuel operations violate fundamental human rights. Grades are scaled to reflect the alignment of bank policies and performance with the framework established by the U.N. Guiding Principles on Business and Human Rights.

Grades and grading criteria are summarized below. Full criteria can be found in Appendix 1, and bank grade explanations can be found online at www.ran.org/shortingtheclimate.

A — ADVANCES U.N. GUIDING PRINCIPLES

Banks in the "A" range (A and A-) have fully implemented the U.N. Guiding Principles on Business and Human Rights and are working to broaden their acceptance by the public or private sector.

B — FULL ALIGNMENT WITH U.N. GUIDING PRINCIPLES

"B" range grades (B+ and B-) are assigned to banks that have comprehensive human rights policies, due diligence processes, and grievance mechanisms.

C — COMPREHENSIVE HUMAN RIGHTS POLICY AND DISCLOSURE

"C" range grades (C+ and C-) are awarded to banks that have comprehensive human rights policies and report on human rights due diligence.

D — PARTIAL HUMAN RIGHTS POLICY OR DISCLOSURE

"D" range grades (D+ and D-) are awarded to banks that have a human rights policy.

F — NO POLICY

Failing grades (F) are assigned to banks that do not have a publicly-disclosed human rights policy.

PHOTO: JOE ATHIALY

HUMAN RIGHTS GRADES

COMPANY	GRADE	COMPANY	GRADE
UNITED STATES		**EUROPE**	
BANK OF AMERICA	D-	BARCLAYS	D+
CITIGROUP	D+	BNP PARIBAS	D+
GOLDMAN SACHS	D+	BPCE/NATIXIS	F
JPMORGAN CHASE	D+	CRÉDIT AGRICOLE	D-
MORGAN STANLEY	D+	CREDIT SUISSE	D+
PNC FINANCIAL	D-	DEUTSCHE BANK	D+
WELLS FARGO	D-	HSBC	D+
CANADA		ING	D+
BANK OF MONTREAL	D-	ROYAL BANK OF SCOTLAND (RBS)	D+
CANADIAN IMPERIAL BANK OF COMMERCE	D-	SANTANDER	D+
ROYAL BANK OF CANADA (RBC)	D-	SOCIÉTÉ GÉNÉRALE	D+
SCOTIABANK	D+	UBS	D+
TD BANK	D-	UNICREDIT	D+

APPENDIX 1 - FULL GRADING CRITERIA

Full explanations for all bank grades are available online at: www.ran.org/shortingtheclimate.

COAL MINING FINANCE

A **Coal mining exclusion and public policy leadership:**
Prohibits all financing[119] for all coal producers[120] ***and*** coal mines and has made climate change mitigation a public policy advocacy priority

A- **Coal mining exclusion:**
Prohibits all financing for all coal producers and coal mines

B+ **Coal mining phase-out commitment with reporting:**
Commits to phase out all financing for coal producers and coal mines with a clear timeline and public reporting on implementation

B **Coal mining reduction commitment covering all forms of financing, with reporting:**
Commits to reduce all financing for coal producers and coal mines, with public reporting on implementation

B- **Partial commitment to reduce financing for coal mining without reporting:**
Commits to reduce one or more types of financing (e.g. lending or underwriting) for some coal producers (at a minimum, for all companies that derive the majority of their revenue from coal mining)

C+ **MTR exclusion or prohibition on financing for new coal mines:**
Prohibits all financing for all producers of MTR coal or prohibits financing for new coal mines

C **MTR phase-out with reporting:**
Commits to phase out all financing for producers of MTR coal and reports on implementation

C- **Partial MTR phase-out, or phase-out without reporting:**
Commits to phase out all financing for producers of MTR coal, but does not report on implementation or commits to phase out one or more types of financing (e.g. lending or underwriting) for some, but not all MTR producers

D **Coal mining due diligence commitment:**
Has an enhanced due diligence process for coal mining transactions, with publicly disclosed due diligence criteria

D- **General due diligence commitment:**
Has a general environmental and social due diligence process for corporate financing transactions involving the coal industry, with publicly disclosed due diligence criteria

F **No policy**

COAL POWER FINANCE

A **Coal power exclusion and public policy leadership:**
Prohibits all financing for new coal plants or coal power producers[121] ***and*** has made climate change mitigation a public policy advocacy priority

A- **Coal power exclusion:**
Prohibits all financing for new coal plants or coal power producers

B+ **Coal power sector phase-out commitment with reporting:**
Commits to phase out all financing for coal power producers with clear timeline and public reporting on implementation

B **Coal power sector reduction commitment covering all forms of financing with reporting:**
Commits to reduce all financing for coal power producers with public reporting on implementation

B- **Partial commitment to reduce financing for coal power sector without reporting:**
Commits to reduce one or more forms of financing (e.g. lending or underwriting) for some coal power producers or commits to reduce the financed emissions footprint of electric power sector transactions

C+ **Global individual coal power plant financing exclusion:**
Prohibits financing for all new coal power plants, globally

C **Partial individual coal power plant financing exclusion:**
Prohibits financing for all new coal power plants in some geographic regions, but not others

C- **Reporting on financed emissions:**
Reports on the overall financed emissions footprint of electric power sector lending and underwriting transactions

D+ **Coal plant efficiency threshold:**
Sets a minimum efficiency or technology threshold for new power plant financing

D **Electric power due diligence commitment:**
Has an enhanced due diligence process for electric power sector transactions, with publicly disclosed due diligence criteria

D- **General due diligence commitment:**
Has a general environmental and social due diligence process for corporate financing transactions, with publicly disclosed due diligence criteria

F **No policy**

EXTREME OIL FINANCE

A **Extreme oil exclusion and public policy leadership:**
Prohibits all financing for tar sands, Arctic oil, and ultra-deepwater oil at both the company and project level and has made climate change mitigation a public policy advocacy priority

A- **Extreme oil exclusion:**
Prohibits all financing for tar sands, Arctic oil, and ultra-deepwater oil at both the company and project level

B+ **Extreme oil phase-out commitment with reporting:**
Commits to phase out financing for all companies with current or planned tar sands, Arctic oil, and ultra-deepwater oil operations, with public reporting on implementation

B **Partial extreme oil phase-out commitment:**
Commits to phase out financing for companies with current or planned operations involving either tar sands, Arctic oil, or ultra-deepwater oil operations, but not all three categories

B- **Extreme oil reduction commitment:**
Commits to reduce financing for companies with current or planned operations involving either tar sands, Arctic oil, or ultra-deepwater oil operations, but not all three categories

C+ **Extreme oil project-specific financing exclusion:**
Prohibits financing for all projects involving tar sands, Arctic oil, and ultra-deepwater oil

C **Partial extreme oil project-specific financing exclusion:**
Prohibits financing for projects involving tar sands, Arctic oil, or ultra-deepwater oil, but not all three categories

C- **Extreme oil project-specific phase-out:**
Commits to phase out financing for projects involving tar sands, Arctic oil, or ultra-deepwater oil

D+ **Extreme oil due diligence commitment:**
Has an enhanced due diligence process for transactions related to tar sands, Arctic oil, and ultra-deepwater oil operations with publicly disclosed due diligence criteria

D **Partial due diligence commitment:**
Has an enhanced due diligence process for transactions related to either tar sands, Arctic oil, or ultra-deepwater oil operations (with publicly disclosed due diligence criteria), but not for all three categories

D- **General due diligence commitment:**
Has a general environmental and social due diligence process for corporate financing transactions, with publicly disclosed due diligence criteria

F **No policy**

LNG EXPORT FINANCE

A **LNG export infrastructure exclusion and public policy leadership:**
Prohibits financing for LNG export terminal construction or for owners of current or planned LNG export terminals and has made climate change mitigation a public policy advocacy priority

A- **LNG export infrastructure exclusion:**
Prohibits financing for LNG export terminal construction or for operators of current or planned LNG export operations

B+ **LNG export infrastructure phase-out commitment with reporting:**
Commits to phase out financing for all companies with current or planned LNG export operations, with public reporting on implementation

B **LNG export infrastructure reduction commitment with reporting:**
Commits to reduce financing for all companies with current or planned LNG export operations, with public reporting on implementation

B- **LNG export infrastructure reduction commitment without reporting:**
Commits to reduce financing for all companies with current or planned LNG export operations

C+ **LNG export infrastructure project-specific financing exclusion:**
Prohibits financing for the construction or expansion of LNG export terminals

C- **LNG export infrastructure project-specific financing phase-out:**
Commits to phase out financing for the construction or expansion of LNG export terminals

D **LNG due diligence commitment:**
Has an enhanced due diligence process for LNG export-related financing transactions, with publicly disclosed due diligence criteria

D- **General due diligence commitment:**
Has a general environmental and social due diligence process for corporate financing transactions, with publicly disclosed due diligence criteria

F **No policy**

HUMAN RIGHTS

A All of the below, plus the bank advances the U.N. Guiding Principles on Business and Human Rights by requiring financed companies to implement the principles and/or by making strengthening global business and human rights standards a public policy advocacy priority

B+ All of the below, plus the bank's human rights grievance mechanism includes public reporting and a process for remediating human rights impacts

B- All of the below, plus the bank has a human rights grievance mechanism

C+ Has a human rights policy which includes all required elements and reports on outcomes of human rights due diligence and publishes responses to all controversies

C- Has a human rights policy which includes all required elements or reports on outcomes of human rights due diligence and publishes responses to all controversies

D+ Has a human rights policy which includes some required elements or reports on outcomes of human rights due diligence (without published responses to all controversies)

D- Has a human rights policy, but it does not address any required elements

F No policy

Required human rights policy elements:

1. A commitment to respect the Universal Declaration of Human Rights, the International Covenant on Civil and Political Rights, the International Covenant on Economic Social, and Cultural Rights, and the International Labor Organization Declaration of Fundamental Principles of Rights at Work
2. A commitment to follow the U.N. Guiding Principles on Business and Human Rights
3. A commitment to respect the right of Indigenous communities to free, prior, and informed consent
4. A prohibition on financing any project or company that engages in forced resettlement of individuals or communities
5. A requirement that all financed projects and companies implement the Voluntary Principles on Security and Human Rights
6. Applicability to all relevant financial transaction types (project finance, corporate lending, corporate equity and debt underwriting)

APPENDIX 2 - COMPANIES INCLUDED

TOP ARCTIC OIL COMPANIES BY RESERVES (RYSTAD ENERGY AS)

RANK	COMPANY	RESERVES (MILLION BARRELS)
1	EXXONMOBIL	573.29
2	HUSKY ENERGY	484.03
3	ENI	462.81
4	SUNCOR ENERGY	416.57
5	CHEVRON	325.76
6	LUNDIN PETROLEUM	185.39
7	SHELL	180.30
8	IDEMITSU	135.54
9	DEA (LETTERONE)	127.06

TOP TAR SANDS OIL COMPANIES BY RESERVES (RYSTAD ENERGY AS)

RANK	COMPANY	RESERVES (MILLION BARRELS)	RANK	COMPANY	RESERVES (MILLION BARRELS)
1	SUNCOR ENERGY	9,965.48	16	DEVON ENERGY	1,276.61
2	CANADIAN NATURAL RESOURCES	7,104.70	17	MARATHON OIL	1,246.71
3	CENOVUS ENERGY	5,618.34	18	HUSKY ENERGY	1,100.79
4	EXXONMOBIL	5,355.65	19	TECK RESOURCES LIMITED	1,073.46
5	CONOCOPHILLIPS	5,125.02	20	CHEVRON	911.71
6	SHELL	3,479.09	21	VALUE CREATION	648.78
7	MEG ENERGY	3,058.16	22	CONNACHER OIL AND GAS	586.32
8	OSUM	2,872.88	23	PARAMOUNT RESOURCES	566.45
9	LARICINA ENERGY	2,393.46	24	SOUTHERN PACIFIC RESOURCE	558.96
10	ATHABASCA OIL CORPORATION	2,344.69	25	BLACK PEARL RESOURCES	334.68
11	TOTAL	2,239.93	26	JAPEX	322.74
12	SUNSHINE OILSANDS	2,074.31	27	PENGROWTH ENERGY CORP	306.08
13	IMPERIAL OIL (PUBLIC TRADED PART)	1,802.23	28	GRIZZLY OIL SANDS	284.97
14	CANADIAN OIL SANDS	1,800.11	29	MURPHY OIL	244.98
15	BP	1,332.00	30	JX NIPPON OIL AND GAS	244.98

TOP ULTRA-DEEP OIL COMPANIES BY RESERVES (RYSTAD ENERGY AS)

RANK	COMPANY	RESERVES (MILLION BARRELS)	RANK	COMPANY	RESERVES (MILLION BARRELS)
1	BP	4,648.34	16	COBALT INTERNATIONAL ENERGY	354.76
2	SHELL	3,795.67	17	NOBLE ENERGY	220.60
3	TOTAL	3,413.76	18	QUEIROZ GALVAO EXPLORACAO E PRODUCAO	219.10
4	BG	2,812.03	19	MURPHY OIL	175.72
5	CHEVRON	1,380.02	20	BHARAT PETROLEUM CORP	152.87
6	EXXONMOBIL	1,210.61	21	BARRA ENERGIA	146.69
7	ANADARKO	1,113.09	22	VIDEOCON	145.46
8	GALP ENERGIA SA	996.94	23	VENARI RESOURCES	136.28
9	REPSOL	861.35	24	INPEX	133.19
10	ENI	839.24	25	NEW BRIGHT INTERNATIONAL DEVELOPMENT	112.89
11	BHP BILLITON	644.31	26	MARATHON OIL	111.82
12	MAERSK OIL	525.14	27	ATLAS PETROLEUM	107.81
13	CONOCOPHILLIPS	473.72	28	SOUTH ATLANTIC	106.38
14	HESS	425.18	29	OGPAR	105.01
15	FREEPORT-MCMORAN	418.20			

TOP LNG EXPORT COMPANIES BY ATTRIBUTABLE CAPACITY

RANK	COMPANY	RESERVES (ATTRIBUTABLE BILLION CUBIC FEET PER DAY)	RANK	COMPANY	RESERVES (ATTRIBUTABLE BILLION CUBIC FEET PER DAY)
1	CHENIERE ENERGY	7.74	17	QATAR PETROLEUM	1.47
2	VENTURE GLOBAL PARTNERS LLC	4.21	18	FREEPORT LNG DEVELOPMENT LP	1.43
3	NEXTDECADE LLC	3.60	19	SHELL	1.29
4	MCMORAN EXPLORATION CO	3.22	20	APACHE CORPORATION	1.28
5	SEMPRA ENERGY	3.16	21	EXXONMOBIL	1.22
6	GULF COAST LNG EXPORT LLC	2.80	22	KINDER MORGAN	1.10
7	CONOCOPHILLIPS	2.74	23	CAMBRIDGE ENERGY GROUP LTD	1.07
8	ENERGY TRANSFER	2.20	24	EXELON CORPORATION	0.94
9	VERESEN INC	2.00	25	MITSUBISHI CORPORATION	0.94
10	G2 LNG LLC	1.84	26	BP	0.85
11	FAIRWOOD PENINSULA ENERGY CORPORATION	1.80	27	DOMINION RESOURCES	0.82
12	PETROLIAM NASIONAL BHD (PETRONAS)	1.70	28	CHINA NATIONAL PETROLEUM CORPORATION	0.65
13	EOS LNG LLC	1.60	29	KOREA GAS CORPORATION	0.65
14	SOUTHERN CALIFORNIA TELEPHONE & ENERGY	1.60	30	MITSUI	0.58
15	BARCA	1.60	31	GDF SUEZ	0.58
16	LIQUEFIED NATURAL GAS LTD	1.58			

LARGEST COAL POWER PRODUCERS BY MW COAL CAPACITY (2015)[122]

COMPANY	MEGAWATTS OF COAL GENERATING CAPACITY, 2015	COMPANY	MEGAWATTS OF COAL GENERATING CAPACITY, 2015
UNITED STATES		**EUROPE, MIDDLE EAST, AFRICA**	
AMERICAN ELECTRIC POWER	19,248	ESKOM	37,754
DUKE ENERGY	18,942	RWE	21,375
SOUTHERN COMPANY	18,000	DTEK	18,700
BERKSHIRE HATHAWAY	16,864	ENEL	17,005
(PACIFICORP, MIDAMERICAN ENERGY		VATTENFALL	16,922
COMPANY, AND NV ENERGY)		ENGIE (FORMERLY GDF SUEZ)	15,223
NRG ENERGY	15,841	E.ON	10,901
TENNESSEE VALLEY AUTHORITY	10,995	PGE	10,567
FIRSTENERGY	9,406	ENDESA	8,278
ENERGY FUTURE HOLDINGS	8,017	CEZ	8,173
PPL	7,429		
XCEL ENERGY	7,409		

ENDNOTES

1. These reports from the Carbon Tracker Initiative (CTI) analyze the anticipated costs of future fossil fuel projects, and assess their associated stranded asset risk based on the reasoning that high-cost reserves are the most likely to be unprofitable to extract under a low fossil fuel demand/2°C climate stabilization scenario. Although the subsectors and project types highlighted in this report card tend to have the highest costs and stranded asset risks, costs vary from project to project, and CTI's reports do not purport to categorically delineate between industry subsectors that are or are not compatible with a particular climate stabilization threshold. However, because these subsectors have the highest level of stranded asset risk in general, and also pose severe risks to communities and ecosystems, we have included them in this year's report card. "Carbon Supply Cost Curves: Evaluating Financial Risk to Gas Capital Expenditures," Carbon Tracker Initiative, July 2015; "Carbon Supply Cost Curves: Evaluating Financial Risk to Oil Capital Expenditures," Carbon Tracker Initiative, May 2014.

2. Data on recent bank involvement with coal mining and power companies can be found on Banktrack's Coal Banks website (www.coalbanks.org) and in previous editions of the RAN Coal Finance Report Card.

3. Subsidiaries of the included companies (see Appendix 2) that are solely renewable companies were excluded from the analysis if brought to our attention. Four companies - BP, ConocoPhillips, ExxonMobil, and Shell - are top companies included in both the Extreme Oil and the LNG subsectors.

4. Based on Rystad Energy's UCube database. See Appendix 2 for a full list of companies included in this report.

5. "Long Term Applications Received by DOE/FE to Export Domestically Produced LNG from the Lower-48 States (as of March 18, 2016)," U.S. Department of Energy, March 18 2016; "LNG Existing and Proposed Terminals," Federal Energy Regulatory Commission," Updated May 6 2016.

6. "Letter from His Excellency Anote Tong, President of the Republic of Kiribati," No New Coal Mines, August 2015.

7. "For The Marshall Islands, The Climate Goal Is '1.5 To Stay Alive'," NPR, December 9 2015.

8. Edward Wong, "Statistics from China Say Coal Consumption Continues to Drop," New York Times, March 2 2016; "Global Coal Consumption: Down an Additional 2-4% in 2015," Tim Buckley, Institute for Energy Economics and Financial Analysis, November 15 2015; "Short-Term Energy and Summer Fuels Outlook: Coal," U.S. Energy Information Administration, April 12 2016.

9. Matthew Brown, "Arch Coal Suspends Plans for Otter Creek Mine in Montana," Associated Press, March 10 2016; Amanda Saunders and Ben Potter, "National Australia Bank Rules Out Funding Adani's Carmichael Coal Mine," Sydney Morning Herald, September 3 2015.

10. "The Coal Test: Where Banks Stand on Climate at COP 21," BankTrack and Rainforest Action Network, December 2015; Tim Loh, "JPMorgan Won't Back New Coal Mines to Combat Climate Change," Bloomberg, March 7 2016.

11. Alex Nussbaum, "Fossil-Fuel Divestment Tops $3.4 Trillion Mark, Activists Say," Bloomberg, December 2 2015.

12. "Dow Jones U.S. Coal Index," Google Finance, accessed April 20 2016 (5 year performance from April 29 2011 through April 20 2016 was -92.36%).

13. Alec MacGillis, "The Incredible Disappearing Health Benefits," The New Republic, February 18 2013.

14. "Blackhawk Mining Investing in Central Appalachia," Coal Age, April 14 2014.

15. "Patriot Coal Completes Chapter 11," Coal Age, November 4 2015.

16. See the data online at www.ran.org/shortingtheclimate (Rainforest Action Network calculations based on mine production reported to the U.S. Mine Safety and Health Administration (MSHA)).

17. Ross Geredien, "Assessing the Extent of Mountaintop Removal in Appalachia: An Analysis Using Vector Data," 2009; See also, "Testimony of John "Randy" Pomponio," Director, Environmental Assessment and Innovation Division, EPA Mid-Atlantic Region, June 25 2009; "Health Study Articles on the Effects of Coal Mining," Ohio Valley Environmental Coalition.

18. Lending data sourced from Bloomberg terminal.

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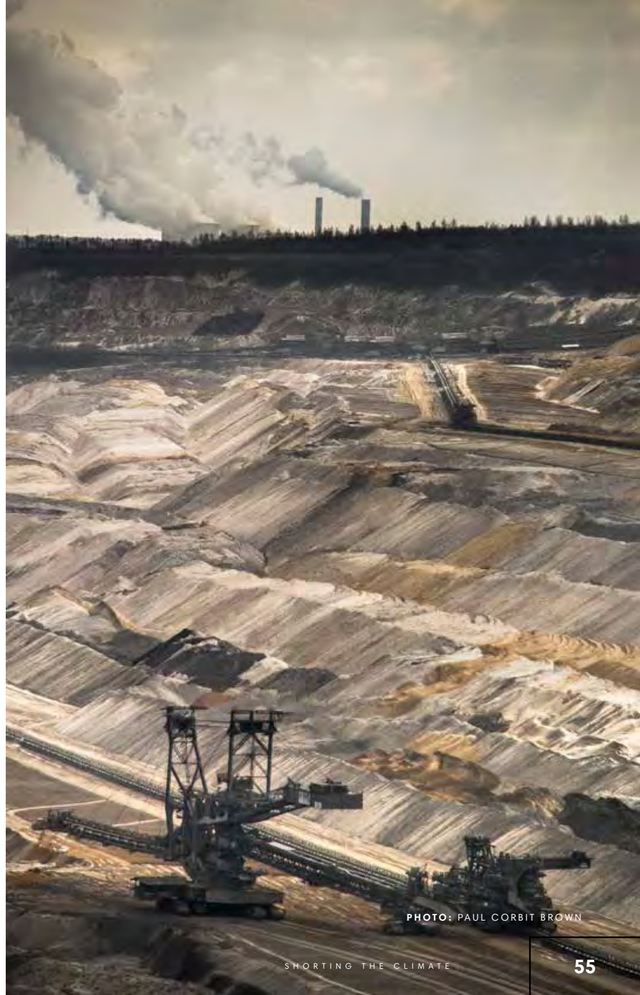

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» Derive 30% or more of their revenue from coal mining, coal transportation, coal-to-liquids operations, or the production of specialized equipment for the coal mining industry
» Produce more than 20 million metric tons of coal annually
» Are expanding any coal mining operations or coal infrastructure projects (e.g. building, expanding, or acquiring new coal mines, coal export terminals, or coal-to-liquids facilities)

121. "Coal power producers" refers to electric power producers that meet one or more of the following criteria:

» Produce more than 30% of their electricity from coal
» Consume more than 20 million metric tons of coal annually for power production
» Are building any new coal-fired power plants or expanding existing ones

122. Generating capacity data is for 2013 (except for CEZ and Xcel Energy, which are for 2014). Data is sourced mainly from company reports. For a fully cited version of this table, see www.ran.org/ shortingtheclimate.

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