

PUBLICLY TRADED COMPANIES THAT BENEFITED FROM FORCED OR SLAVE LABOR, 1929 - 1945

MSCIESG Research LLC

September 2020



INTRODUCTION

I. INTRODUCTION TO THIS REPORT

This report was prepared in order to fulfill a contract with the California Public Employees' Retirement System (CalPERS), undertaken in response to state legislative mandate Calif. Stats. 1999, Ch. 216, a statute requiring CalPERS "to monitor investments in businesses that owe compensation to victims of slave labor." This report lists publicly traded companies that have been identified as having employed forced or slave labor in Nazicontrolled or allied territories (including Japan) from 1929 to 1945. It is an updated version of a report first submitted in September 2001. Where a company with evidence of use of forced or slave labor is now private but has been acquired by a publicly traded parent company, MSCI ESG Research has not attributed the actions of the subsidiary to the parent company.

II. HISTORICAL BACKGROUND

Particularly near the end of World War II, a large portion of the able-bodied male workers in Germany and Japan were serving in the armed forces, and the German and Japanese governments offered private corporations the opportunity to substitute as laborers foreign nationals, prisoners of war or concentration camp inmates. In addition, Japanese corporations established outposts in countries occupied by Japan. In some cases Japanese corporations paid these laborers a small salary (frequently in company scrip); in Germany the government often received payment for each laborer a given company used. Companies provided laborers with food and shelter, which was frequently inadequate.

Many historians make a distinction between slave labor, usually performed by POWs or concentration camp victims and including severe abuse, and forced labor, frequently performed by foreign civilians working against their will, but under somewhat more humane conditions. (The characterization of forced labor as more humane than slave labor is a relative one: for example, while female forced laborers at Volkswagen were treated better than concentration camp inmates, forced laborers' infants were taken from them and kept in an unheated, bug-infested nursery, where nearly all of them died from neglect.) Because Calif. Stats. 1999, Ch. 216, covers companies using both slave and forced labor, MSCI ESG Research uses the term "forced labor" as an inclusive term, describing labor that may have been forced or slave. The term "slave labor" appears in this report only in cases where companies described their laborers as "slave laborers" to MSCI ESG Research; however, in some cases this may be the result of the language barrier rather than an indication that slave, as opposed to forced, labor was used.



III. METHODOLOGY

MSCI ESG Research's main sources of information for the names of companies involved in forced or slave labor were the International Tracing Service's *Catalogue of Camps and Prisons in Germany and German-Occupied Territories, Sept. 1, 1939-May 8, 1945,* compiled in 1949; the English-language (and in some cases, German-language) press, accessed through the NEXIS press archive; nongovernmental organizations; and documents from the offices of the Supreme Commander of the Allied Powers in Japan, now housed in the U.S. National Archives. We are also grateful for the help of historian Linda Goetz Holmes, an expert on U.S. POWs in Japan and author of the book *Unjust Enrichment*, who kindly shared with us historical documents from her own collections. In some cases MSCI ESG Research encountered English- and Korean-language non-corporate and nongovernmental websites providing information on companies' involvement in forced or slave labor; we used such information as a jumping-off point for further research and have not included any company based solely on information from an independent website. MSCI ESG Research used a variety of sources to find corporate addresses and investing information.

MSCI ESG Research also reviewed the list of companies that have contributed to the German Economy Foundation Initiative's "Remembrance, Responsibility and the Future" fund, founded by German corporations with the support of the German government to provide compensation to former forced laborers and other victims of the Nazi regime. Companies on this list that are also contributors to the fund are identified in the report.

IV. LEGAL STATUS OF COMPANIES ON THIS LIST

In October 2003, the U.S. Supreme Court upheld an earlier Ninth Circuit Court of Appeals decision that found California Code of Civil Procedure 354.6—which extended the statute of limitations for former forced laborers to sue companies that profited from their labor—to be unconstitutional. The Ninth Circuit Court of Appeals based its decision on the Constitution's granting of foreign affairs powers to the federal government, rather than states. Extending the statute of limitations on forced labor claims is not merely a procedural matter, the court found, but amounted to interference by California in the foreign policy of the United States. Most of the companies on this list, therefore, face significantly diminished liability from their use of forced laborers. Companies are therefore classified according to the type of forced labor they used and any settlement agreements or court decisions that lessen corporate responsibility for this type of forced labor.

Legal status of claims by various victim groups:

Chinese and Korean civilians: It is extremely unlikely that any lawsuits by these groups will be successful in U.S. courts. However, companies that used non-U.S. forced laborers may still be open to legal liability in Japan, China, or South Korea. In 2005, 2007, and 2011,



Japanese courts dismissed suits against companies accused of using civilians as forced laborers. The few judgments against companies have resulted in extremely small damage payments; the largest such court-ordered payment was \$190,000.

As China's influence relative to that of Japan has grown, Chinese nationals and the Chinese government have become more aggressive about pursuing claims against the government of Japan and Japanese companies for abuses that took place during World War II. In November 2006, the *New York Times* reported that attorneys for victims of forced labor have contacted Japanese companies with a significant presence in China. If the Chinese government chooses not to interfere, these attorneys could exert significant pressure on such companies, pressure that could result in significant payouts to former forced laborers and even such laborers' heirs.

In June of 1965 Japan and South Korea signed a treaty that settled property, rights and interests of the countries and their peoples, normalizing relations between the two countries. This treaty has been cited by Japanese courts when wartime labor lawsuits have been placed by individuals, dismissing the lawsuits. However, since 2012 lawsuits have emerged now in South Korea arguing that no international law, treaty or agreement can terminate the right of individuals. Japanese activists and lawyers have exercised pressure to hold Japanese companies accountable for their actions on South Korean courts. In October of 2018, the South Korean Supreme Court ruled that Nippon Steel and Sumitomo Metal Corp should compensate plaintiffs with 100,000 won, around \$89,000 each. Following that ruling, in November 2018, the South Korean Supreme Court ruled that Mitsubishi Heavy Industries of Japan compensate forced labor workers from 80 million won to 150 million won each (\$71,200 to \$133,000 USD). The companies are likely to bring the case to international courts.

The following companies in CalPERS's portfolio are currently facing lawsuits (including lawsuits under appeal) in Japan or China over their use of Chinese civilians as forced laborers:

Kajima Corporation Mitsubishi Corporation Mitsubishi Materials Corporation

The following companies in CalPERS's portfolio are currently facing lawsuits (including lawsuits under appeal) in Japan or South Korea over their use of Korean civilians as forced laborers:

Nachi-Fujikoshi Corp. Showa Denko K.K. Sumitomo Heavy Industries, Ltd. Hitachi Zosen Corporation Mitsui Mining and Smelting Company, Limited Mitsubishi Materials Corporation Nishimatsu Construction Co., Ltd.



IHI Corporation Kawasaki Heavy Industries, Ltd. Mitsubishi Heavy Industries, Ltd. Nachi-Fujikoshi Corp. Nippon Steel Corporation Kumagai Gumi Co.,Ltd. Furukawa Co. Ltd.

U.S. POWs: The Ninth Circuit decision regarding California's forced labor law and the subsequent Supreme Court upholding of that law significantly reduce the risk that companies that profited from the labor of former prisoners of war would be liable in U.S. courts. The U.S. Congress has occasionally seen bills that would allow U.S. POWs to sue companies that profited from their labor, but these bills have died in committee—and even if passed they would probably have been found unconstitutional. Past federal courts have determined that in the treaty ending the war with Japan the United States forfeited the right of its citizens to receive reparations from any Japanese entity.

In a September 2000 case, U.S. District Judge Vaughn R. Walker of the Northern District of California dismissed a case brought by former U.S. POWs who had been forced to labor at various Japanese companies. Walker ruled that the 1951 Treaty of San Francisco, which established peace between Japan and the Allied nations (including the United States, Australia, Great Britain, Holland, the Philippines and others), precluded members of the armed forces of Allied nations from suing as a result of their wartime experiences. Article 14 of the treaty reads, in part:

Except as otherwise provided in the present Treaty, the Allied Powers waive all reparations claims of the Allied Powers, other claims of the Allied Powers and their nationals arising out of any actions taken by Japan and its nationals in the course of the prosecution of the war, and claims of the Allied Powers for direct military costs of occupation.

While the language of the treaty appears clear, a number of legal scholars disagree with Walker's finding, and former POWs have called for a reversal of his ruling or new legislation that would permit claims against Japanese companies.

Australian, British and other Allied POWs: The Treaty of San Francisco, as interpreted by the Northern District of California, precludes claims by all Allied Powers POWs, and the Justice for United States Prisoners of War Act does not include non-U.S. Allied Powers POWs among groups that it would allow to sue in U.S. courts. MSCI ESG Research is unaware of any successful suits by Allied Powers POWs in non-U.S. courts.

Filipino civilians and POWs: Filipino civilians and POWs are no longer able to sue in the United States, and MSCI ESG Research is unaware of any Japanese court cases in which Filipino former forced laborers received compensation from companies that benefited



from their labor. The risk of lawsuits against companies that benefited from the labor of Filipinos is therefore extremely low.

Indonesian civilians: Indonesian civilians were forced to labor in their own country while it was occupied by Japan. They were used both as agricultural laborers and laborers in factories owned by Japanese corporations. MSCI ESG Research has identified several companies that used Indonesian civilians as forced laborers; however, MSCI ESG Research is unaware of any lawsuits filed against these or other corporations in the U.S., Japan or elsewhere, and believes that the risk of lawsuits against such companies is extremely small.

Groups persecuted by the Nazi regime: Nearly all of the companies identified by MSCI ESG Research as having used Nazi victims as forced or slave laborers have made some sort of voluntary reparations to former forced laborers. "Nazi victims" includes conquered peoples (most notably Eastern Europeans, but also French nationals and some Allied POWs) brought to Germany or its occupied territories as laborers and those incarcerated in concentration camps, including Jews, members of the Roma and Sinti tribes ("Gypsies"), Jehovah's Witnesses and others.

Germany, Austria and Switzerland have each reached settlement agreements with representatives of these former forced and slave laborers, absolving German, Austrian and Swiss companies—as well as parent companies with wartime German, Austrian and Swiss subsidiaries—of legal responsibility. A summary of each agreement appears below.

German settlement--In August 2000, the German government passed the German Foundation Act, setting up the "Remembrance, Responsibility and the Future" fund, underwritten jointly by the government and private businesses to provide payments to former forced laborers and other victims of the Nazi regime. The German and U.S. governments assured German businesses that the compensation program would provide companies operating in Germany during the Nazi era (and foreign companies with subsidiaries operating in Germany during the Nazi era) with immunity from all lawsuits related to Holocaust-era claims, including claims from former forced laborers.

While the German Foundation Act is often referred to as a "settlement," it is technically only an agreement between the U.S. and German governments and German businesses. A legal settlement is reached under the guidance of a court and precludes any future lawsuits regarding the same matter. The German Foundation Act provides no such protection. Lawsuits can still be filed in the United States against German companies that benefited from forced labor; however, when such suits are filed, the United States files a Statement of Interest recommending that the case be dismissed. The reparations agreement between the U.S. and German governments and the 2003 Supreme Court decision against California Code of Civil Procedure 354.6 together make it highly unlikely that any German companies can successfully be sued for their use of forced labor. A recent court case in New Jersey illustrates this point: in a lawsuit against Schering and Bayer, Judge William G. Bassler found that "The history of foreign policy commitments devoted to the resolution



of Holocaust-era claims, coupled with the relatively recent creation of the Foundation, renders such claims nonjusticiable."

Swiss settlement--As part of a settlement agreement with Swiss banks accused of appropriating the assets of depositors who died in the Holocaust, Judge Edward Korman of the Eastern District of New York issued a call for information from Swiss firms whose subsidiaries in Nazi-occupied countries had benefited from forced labor. Korman promised immunity from forced labor litigation to companies that identified themselves to a court-appointed Special Master and provided lists of forced laborers "or ... represented that such names are unavailable despite diligent investigation." Of the companies that came forward with information, the majority were not granted immunity because their subsidiaries that used forced labor were not Swiss-owned during the Second World War. In an April 4, 2001 decision, Korman lists 27 companies that were granted immunity. As with the settlement with German companies, these Swiss companies could theoretically be sued by former forced laborers, but it is highly unlikely that they will be.

Austrian settlement--An agreement similar to the German and Swiss agreements was reached with Austrian companies in 2001, leaving the likelihood of lawsuits against Austrian companies small.

Summary of legal issues: While there exists scenarios under which the companies on this list could be sued in U.S. courts by former laborers, such scenarios are highly unlikely. Still, MSCI ESG Research recommends that CalPERS continue to monitor new legal developments. Japanese companies on this list are at risk of lawsuits filed in Japanese courts, although any awards resulting from those cases are likely to be small.

V. IDENTIFICATION OF SUCCESSOR COMPANIES

The majority of the German companies that used forced or slave labor no longer exists as publicly held companies under the same name they used during World War II. In identifying German successor companies, MSCI ESG Research relied in part on research conducted by the American Jewish Committee, which we confirmed by checking addresses and by reviewing corporate histories on company websites, and in correspondence with the present-day companies themselves.

Japanese companies posed a different problem: While many retain the names of World War II-era companies, several of those companies were dissolved at the end of the war and later reorganized, and the present-day companies have told MSCI ESG Research that they are not liable for predecessor companies' actions. Despite corporate reorganizations, however, Japanese courts have found reorganized companies to be responsible for the actions of their predecessors. In cases where companies disputed their identification with prewar precursor companies, MSCI ESG Research consulted the *International Directory of Company Histories* to confirm its identifications, but has noted cases in which companies claim not to be legal successors.



SELECTED BIBLIOGRAPHY

Note: Part I includes references to some of these documents; abbreviations used in references appear in italics

Archival resources:

Supreme Commander of the Allied Powers, Manila Branch—Miscellaneous Files (1945-1949).

Abbreviated in Part I as "Allied Powers Records"

Supreme Commander of the Allied Powers, Legal Section, Administrative Division—Miscellaneous Files (1945-1950).

Abbreviated in Part I as "Allied Powers Records"

Articles:

Michael J. Bazler, Nuremberg in America: Litigating the Holocaust in United States Courts, 34 University of Richmond Law Review 1 (March 2000).

David D. Caron and Adam Schneider, *U.S. Litigation Concerning Japanese Forced Labor in World War II*, American Society of International Law, October 2000, accessed at www.asil.org/insights/insigh57.htm.

Steven C. Clemons, Recovering Japan's Wartime Past—and Ours, The New York Times, Sept. 4, 2001, at A23.

Corporate Watch, Appeal to the International Labour Organization Regarding Violation of Convention No. 29 by Japan During Wartime, December 8, 1997, accessed at www.corpwatch.org/trac/japan/domestic/humanrts/ilo1.html.

Madeline Doms, Compensation for Survivors of Slave and Forced Labor: The Swiss Bank Settlement and the German Foundation Provide Options for Recovery for Holocaust Survivors, 14 Transnational Lawyer 171 (Spring 2001).

Barry A. Fisher, *Japan's Postwar Compensation Litigation*, 22 Whittier Law Review 35 (Fall 2000).

Sean D. Murphy, Contemporary Practice of the United States Relating to International Law, 95 American Journal of International Law 132 (January 2001).

Norimitsu Onishi, Wartime Chinese Laborers Sue Japan for Compensation, The New York Times, Nov. 15, 2006, at A14.



Anita Ramasastry, Corporate Complicity: From Nuremberg to Rangoon -- An Examination of Forced Labor Cases and Their Impact on the Liability of Multinational Corporations, 20 Berkeley J. Int'l L. 91 (2002).

Abbreviated in Part I as "20 Berkeley J. Int'l L. 91"

Kara C. Ryf, Burger-Fischer v. Degussa AG: U.S. Courts Allow Siemens and Degussa to Profit from Holocaust Slave Labor, 33 Case Western Reserve Journal of International Law 155 (Winter 2001).

Shigeru Sato, Labour Relations in Japanese Occupied Indonesia (Changing Labour Relations in Asia International Research Programme), www.iisg.nl/~clara/publicat/clara8.doc.

Anthony J. Sebok, *Un-Settling the Holocaust*, parts I and II (Aug. 28 and Aug. 29, 2000) writ.news.findlaw.com/sebok/20000828.html and writ.news.findlaw.com/sebok/20000829.html.

Books:

John Authers, Richard Wolffe, The Victim's Fortune: Inside the Epic Battle Over the Debts of the Holocaust (New York: Harper Collins, 2002).

Reinhold Billstein, Karola Fings, Anita Kugler, and Nicholas Levis, Working for the Enemy: Ford, General Motors, and Forced Labor in Germany during the Second World War (New York: Berghahn Books, 2000).

Abbreviated in Part I as "Working for the Enemy"

Christopher R. Browning, *The Origins of the Final Solution: The Evolution of Nazi Jewish Policy, September* 1939-March1942 (Lincoln: University of Nebraska Press, 2004).

Thomas Derdak, editor, *International Directory of Company Histories* (Chicago: St. James Press, 1988, 2000).

Benjamin B. Ferencz, Less Than Slaves: Jewish Forced Labor and the Quest for Compensation (Bloomington: Indiana University Press, 2002).

Hisakazu Fujita, Isami Suzuki, Kantaro Nagano, *War and the Rights of Individuals:* Renaissance of Individual Compensation (Tokyo: Nippon Hyoron-sha Co. Ltd., 1999).

Abbreviated in Part I as "War and the Rights of Individuals"

Martin Gilbert, Atlas of the Holocaust (New York: William Morrow and Company, 1993).



Linda Goetz Holmes, *Unjust Enrichment: How Japan's Companies Built Postwar Fortunes Using American POWs* (Mechanicsburg: Stackpole Books, 2001).

Abbreviated in Part I as "Unjust Enrichment"

Felicja Karay (translated from the Hebrew by Sara Kitai), *Death Comes in Yellow:* Skarzysko-Kamienna Slave Labor Camp (Amsterdam: Harwood Academic, 1996).

Abbreviated in Part I as "Death Comes in Yellow"

James W. Parkinson and Lee Benson, *Soldier Slaves* (Annapolis: Naval Institute Press, 2006).

Martin Weismann, Das nationalsozialistische Lagersystem (Frankfurt: Zweitausendeins, 1999). Index available at www.zweitausendeins.de/pdf/ZA.pdf. Incorporates International Tracking Service, Catalogue of Camps and Prisons in Germany and German-Occupied Territories, Sept. 1, 1939-May 8, 1945 (Arolsen: 1949, 1950, 1951).

Abbreviated in Part I as "Catalogue of Camps"

Legal documents:

Multilateral Treaty of Peace with Japan, April 8, 1951, 3 U.S.T. 3169.

Iwanowa v. Ford Motor Company and Ford-Werke, 67 F. Supp. 2d 424 (D. N.J., Sept. 13, 1999).

In Re: Nazi Era Cases Against German Defendants Litigation, 198 F.R.D. 429 (D.N.J. Dec. 5, 2000).

Jeong v. Onoda Cement Co., Ltd., 2000 U.S. Dist. LEXIS 7985 (C.D. Calif., May 17, 2000).

In Re: World War II Era Japanese Forced Labor Litigation, 114 F.Supp. 2d 939 (N.D. Calif. Sept. 21, 2000); 164 F. Supp. 2d 1153 (N.D. Calif. Sept. 17, 2001).

In Re: Holocaust Victim Assets Litigation, No. CV 96-4849 (E.D.N.Y., April 4, 2001) (order regarding Swiss-owned or-affiliated companies granted releases); Special Master's Proposal documents, available at

www.nyed.uscourts.gov/pub/rulings/cv/1996/697505.pdf, www.nyed.uscourts.gov/pub/rulings/cv/1996/6672021.pdf and www.swissbankclaims.com/PDFs_Eng/697501.pdf

Abbreviated in Part I as "Korman correspondence" and "Special Master's Report"

In Re: World War II Era Japanese Forced Labor Litigation, 164 F. Supp 2d 1160 (N.D. Calif. Sept. 17, 2001).



Deutsch v. Turner Corp., 317 F.3d 1005 (9th Cir., Jan. 21, 2003).

In Re: Nazi Era Cases Against German Defendants Litigation, 334 F. Supp. 2d 690 (D. N.J., Sept. 10, 2004).

Online resources:

American Jewish Committee, *German Firms that Used Slave or Forced Labor During the Nazi Era* (last modified Jan. 27, 2000) www.usisrael.org/jsource/Holocaust/germancos.html.

Foundation "Remembrance, Responsibility and the Future" website (accessed Dec. 10, 2007) http://www.stiftung-evz.de/eng/remembrance_and_future_fund.

German Economy Foundation Initiative Steering Group, *Members* (accessed Dec. 14, 2005) www.stiftungsinitiative.de/eindex.html.

International Organization for Migration, *German Forced Labour Compensation Programme* (accessed Dec. 14, 2005) www.compensation-for-forced-labour.org.

Peacenet, Facts About Conscription of the Korean and Chinese People as Forced Labour (accessed Dec. 16, 2002) victim.peacenet.or.kr/ilo/eilo-2.htm.

United Nations, Agreement on the Settlement of Problems Concerning Property and Claims and on Economic Co-operation (accessed November 20, 2018) https://treaties.un.org/doc/Publication/UNTS/Volume%20583/volume-583-l-8473-English.pdf

The New York Times, *How a World War II-Era Reparations Case is Roiling Asia* (published Oct. 30, 2018) https://www.nytimes.com/2018/10/30/world/asia/south-korea-japan-compensation-world-war-two.html

Nikkei Asian Review, Seoul Court Orders Nippon Steel to Compensate Wartime Workers (published Oct. 30, 2018) https://asia.nikkei.com/Politics/International-Relations/Seoul-court-orders-Nippon-Steel-to-compensate-wartime-workers

The New York Times, South Korean Court Orders Mitsubishi of Japan to Pay for Forced Wartime Labor (published Nov. 29, 2018)

https://www.nytimes.com/2018/11/29/world/asia/south-korea-wartime-compensation-japan.html



Contact us

AMERICAS

clientservice@msci.com

Americas	1 888 588 4567 *
Atlanta	+ 1 404 551 3212
Boston	+ 1 617 532 0920
Chicago	+ 1 312 675 0545
Monterrey	+ 52 81 1253 4020
New York	+ 1 212 804 3901
San Francisco	+ 1 415 836 8800
São Paulo	+ 55 11 3706 1360
Toronto	+ 1 416 628 1007

EUROPE, MIDDLE EAST & AFRICA

Cape Town	+ 27 21 673 0100
Frankfurt	+ 49 69 133 859 00
Geneva	+ 41 22 817 9777
London	+ 44 20 7618 2222
Milan	+ 39 02 5849 0415
Paris	0800 91 59 17 *

ASIA PACIFIC

China North	10800 852 1032 *
China South	10800 152 1032 *
Hong Kong	+ 852 2844 9333
Mumbai	+ 91 22 6784 9160
Seoul	00798 8521 3392 *
Singapore	800 852 3749 *
Sydney	+ 61 2 9033 9333
Taipei	008 0112 7513 *
Thailand	0018 0015 6207 7181 *
Tokyo	+ 81 3 5290 1555

^{* =} toll free

ABOUT MSCI

MSCI is a leading provider of critical decision support tools and services for the global investment community. With over 45 years of expertise in research, data and technology, we power better investment decisions by enabling clients to understand and analyze key drivers of risk and return and confidently build more effective portfolios. We create industry-leading research-enhanced solutions that clients use to gain insight into and improve transparency across the investment process.

About MSCI ESG Research Products and Services

MSCI ESG Research products and services are provided by MSCI ESG Research LLC, and are designed to provide in-depth research, ratings and analysis of environmental, social and governance-related business practices to companies worldwide. ESG ratings, data and analysis from MSCI ESG Research LLC. are also used in the construction of the MSCI ESG Indexes. MSCI ESG Research LLC is a Registered Investment Adviser under the Investment Advisers Act of 1940 and a subsidiary of MSCI Inc.

To learn more, please visit www.msci.com.



Notice and disclaimer

This document and all of the information contained in it, including without limitation all text, data, graphs, charts (collectively, the "Information") is the property of MSCI Inc. or its subsidiaries (collectively, "MSCI"), or MSCI's licensors, direct or indirect suppliers or any third party involved in making or compiling any Information (collectively, with MSCI, the "Information Providers") and is provided for informational purposes only. The Information may not be modified, reverse-engineered, reproduced or redisseminated in whole or in part without prior written permission from MSCI. All rights in the Information are reserved by MSCI and/or its Information Providers.

The Information may not be used to create derivative works or to verify or correct other data or information. For example (but without limitation), the Information may not be used to create indexes, databases, risk models, analytics, software, or in connection with the issuing, offering, sponsoring, managing or marketing of any securities, portfolios, financial products or other investment vehicles utilizing or based on, linked to, tracking or otherwise derived from the Information or any other MSCI data, information, products or services.

The user of the Information assumes the entire risk of any use it may make or permit to be made of the Information. NONE OF THE INFORMATION PROVIDERS MAKES ANY EXPRESS OR IMPLIED WARRANTIES OR REPRESENTATIONS WITH RESPECT TO THE INFORMATION (OR THE RESULTS TO BE OBTAINED BY THE USE THEREOF), AND TO THE MAXIMUM EXTENT PERMITTED BY APPLICABLE LAW, EACH INFORMATION PROVIDER EXPRESSLY DISCLAIMS ALL IMPLIED WARRANTIES (INCLUDING, WITHOUT LIMITATION, ANY IMPLIED WARRANTIES OF ORIGINALITY, ACCURACY, TIMELINESS, NON-INFRINGEMENT, COMPLETENESS, MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE) WITH RESPECT TO ANY OF THE INFORMATION.

Without limiting any of the foregoing and to the maximum extent permitted by applicable law, in no event shall any Information Provider have any liability regarding any of the Information for any direct, indirect, special, punitive, consequential (including lost profits) or any other damages even if notified of the possibility of such damages. The foregoing shall not exclude or limit any liability that may not by applicable law be excluded or limited, including without limitation (as applicable), any liability for death or personal injury to the extent that such injury results from the negligence or willful default of itself, its servants, agents or sub-contractors.

Information containing any historical information, data or analysis should not be taken as an indication or guarantee of any future performance, analysis, forecast or prediction. Past performance does not guarantee future results.

The Information should not be relied on and is not a substitute for the skill, judgment and experience of the user, its management, employees, advisors and/or clients when making investment and other business decisions. All Information is impersonal and not tailored to the needs of any person, entity or group of persons.

None of the Information constitutes an offer to sell (or a solicitation of an offer to buy), any security, financial product or other investment vehicle or any trading strategy.

It is not possible to invest directly in an index. Exposure to an asset class or trading strategy or other category represented by an index is only available through third party investable instruments (if any) based on that index. MSCI does not issue, sponsor, endorse, market, offer, review or other wise express any opinion regarding any fund, ETF, derivative or other security, investment, financial product or trading strategy that is based on, linked to or seeks to provide an investment return related to the performance of any MSCI index (collectively, "Index Linked Investments"). MSCI makes no assurance that any Index Linked Investments will accurately track index performance or provide positive investment returns. MSCI lnc. is not an investment adviser or fiduciary and MSCI makes no representation regarding the advisability of investing in any Index Linked Investments.

Index returns do not represent the results of actual trading of investible assets/securities. MSCI maintains and calculates indexes, but does not manage actual assets. Index returns do not reflect payment of any sales charges or fees an investor may pay to purchase the securities underlying the index or Index Linked Investments. The imposition of these fees and charges would cause the performance of an Index Linked Investment to be different than the MSCI index performance.

The Information may contain back tested data. Back-tested performance is not actual performance, but is hypothetical. There are frequently material differences between back tested performance results and actual results subsequently achieved by any investment strategy.

Constituents of MSCI equity indexes are listed companies, which are included in or excluded from the indexes according to the application of the relevant index methodologies.

Accordingly, constituents in MSCI equity indexes may include MSCI Inc., clients of MSCI or suppliers to MSCI. Inclusion of a security within an MSCI index is not a recommendation by MSCI to buy, sell, or hold such security, nor is it considered to be investment advice.

Data and information produced by various affiliates of MSCI Inc., including MSCI ESG Research LLC and Barra LLC, may be used in calculating certain MSCI indexes. More information can be found in the relevant index methodologies on www.msci.com.

MSCI receives compensation in connection with licensing its indexes to third parties. MSCI Inc.'s revenue includes fees based on assets in Index Linked Investments. Information can be found in MSCI Inc.'s company fillings on the Investor Relations section of www.msci.com.

MSCI ESG Research LLC is a Registered Investment Adviser under the Investment Advisers Act of 1940 and a subsidiary of MSCI Inc. Except with respect to any applicable products or services from MSCI ESG Research, neither MSCI nor any of its products or services recommends, endorses, approves or otherwise expresses any opinion regarding any issuer, securities, financial products or instruments or trading strategies and MSCI's products or services are not intended to constitute invest ment advice or a recommendation to make (or refrain from making) any kind of investment decision and may not be relied on as such. Issuers mentioned or included in any MSCI ESG Research materials may include MSCI Inc., clients of MSCI or suppliers to MSCI, and may also purchase research or other products or services from MSCI ESG Research. MSCI ESG Research materials, including materials utilized in any MSCI ESG Indexes or other products, have not been submitted to, nor received approval from, the United States Securities and Exchange Commission or any other regulatory body.

Any use of or access to products, services or information of MSCI requires a license from MSCI. MSCI, Barra, RiskMetrics, IPD and other MSCI brands and product names are the trademarks, service marks, or registered trademarks of MSCI or its subsidiaries in the United States and other jurisdictions. The Global Industry Classification Standard (GICS) was developed by and is the exclusive property of MSCI and Standard & Poor's. "Global Industry Classification Standard (GICS)" is a service mark of MSCI and Standard & Poor's.

MIFID2/MIFIR notice: MSCI ESG Research LLC does not distribute or act as an intermediary for financial instruments or structured deposits, nor does it deal on its own account, provide execution services for others or manage client accounts. No MSCI ESG Research product or service supports, promotes or is intended to support or promote any such activity. MSCI ESG Research is an independent provider of ESG data, reports and ratings based on published methodologies and available to clients on a subscription basis. We do not provide custom or one-off ratings or recommendations of securities or other financial instruments upon request.

Privacy notice: For information about how MSCI collects and uses personal data, please refer to our Privacy Notice at https://www.msci.com/privacy-pledge.