Risk Factors Comparison 2024-02-26 to 2023-03-01 Form: 10-K

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You should consider carefully the following risks, along with the other information contained in or incorporated by reference in this Form 10- K. Additional risks and uncertainties also may adversely affect our business and operations. We routinely encounter and address risks, some of which may cause our future results to be materially different than we presently anticipate. The categories of risk we have identified in Item 1A. — Risk Factors include risks associated with our operations, governmental regulation and laws, our indebtedness and financial condition. These risk factors should be read in conjunction with Item 7. — Management' s Discussion and Analysis of Financial Condition and Results of Operations in this Form 10- K and the Consolidated Financial Statements and related notes included elsewhere in this Form 10- K. If any of the following events actually occur, our business, financial results and financial condition could be materially adversely affected. Risks Associated with our Operations The operation of power generation, distribution and transmission facilities involves significant risks. We are in the business of generating and distributing electricity, which involves certain risks that can adversely affect financial and operating performance, including: • changes in the availability of our generation facilities or distribution systems due to increases in scheduled and unscheduled plant outages, equipment failure, failure of transmission systems, labor disputes, disruptions in fuel supply, poor hydrologic and wind conditions, inability to comply with regulatory or permit requirements, or catastrophic events such as fires, floods, storms, hurricanes, earthquakes, dam failures, tsunamis, explosions, terrorist acts, vandalism, cyber- attacks or other similar occurrences; and • changes in our operating cost structure, including, but not limited to, increases in costs relating to gas, coal, oil and other fuel; fuel transportation; purchased electricity; operations, maintenance and repair; environmental compliance, including the cost of purchasing emissions offsets and capital expenditures to install environmental emission equipment; transmission access; and insurance. Our businesses require reliable transportation sources (including related infrastructure such as roads, ports and rail), power sources and water sources to access and conduct operations. The availability and cost of this infrastructure affects capital and operating costs and levels of production and sales. Limitations or interruptions in this infrastructure or at the facilities of our subsidiaries, including as a result of third parties intentionally or unintentionally disrupting this infrastructure or the facilities of our subsidiaries, could impede their ability to produce electricity. In addition, a portion of our generation facilities were constructed many years ago and may require significant capital expenditures for maintenance. The equipment at our plants requires periodic upgrading, improvement or repair and replacement equipment or parts may be difficult to obtain in circumstances where we rely on a single supplier or a small number of suppliers. The inability to obtain replacement equipment or parts, due to disruption of the supply chain or other factors, may impact the ability of our plants to perform. Breakdown or failure of one of our operating facilities may prevent the facility from performing under applicable power sales agreements which, in certain situations, could result in termination of a power purchase or other agreement or incurrence of a liability for liquidated damages and / or other penalties. Power generation involves hazardous activities, including acquiring, transporting and unloading fuel, operating large pieces of rotating equipment and delivering electricity to transmission and distribution systems. In addition to natural risks, such as earthquakes, floods, lightning, hurricanes and wind, hazards, such as fire, explosion, collapse and machinery failure, are inherent risks in our operations which may occur as a result of inadequate internal processes, technological flaws, human error or actions of third parties or other external events. The control and management of these risks depend upon adequate development and training of personnel and on operational procedures, preventative maintenance plans, and specific programs supported by quality control systems, which may not prevent the occurrence and impact of these risks. **55 | 2023 Annual Report** In addition, our battery storage operations also involve risks associated with lithium- ion batteries. On rare occasions, lithium- ion batteries can rapidly release the energy they contain by venting smoke and flames in a manner that can ignite nearby materials as well as other lithium- ion batteries. While more recent design developments for our storage projects seek to minimize the impact of such events, these events are inherent risks of our battery storage operations. ~~59 | 2022 Annual Report~~ The hazards described above, along with other safety hazards associated with our operations, can cause significant personal injury or loss of life, severe damage to and destruction of property, plant and equipment, contamination of, or damage to, the environment and suspension of operations. The occurrence of any one of these events may result in our being named as a defendant in lawsuits asserting claims for substantial damages, environmental cleanup costs, personal injury and fines and / or penalties. Furthermore, we and our affiliates are parties to material litigation and regulatory proceedings. See Item 3. — Legal Proceedings below. There can be no assurance that the outcomes of such matters will not have a material adverse effect on our consolidated financial position. We do a significant amount of business outside the U. S., including in developing countries. A significant amount of our revenue is generated in developing countries and we intend to expand our business in certain developing countries in which AES or its customers have an existing presence. International operations, particularly in developing countries, entail significant risks and uncertainties, including: • economic, social and political instability in any particular country or region; • adverse changes in currency exchange rates; • government restrictions on converting currencies or repatriating funds; • unexpected changes in foreign laws and regulations or in trade, monetary, fiscal or environmental policies; • high inflation and monetary fluctuations; • restrictions on imports of solar panels, wind turbines, coal, oil, gas or other raw materials; • threatened or consummated expropriation or nationalization of our assets by foreign governments; • unexpected delays in permitting and governmental approvals; • unexpected changes or instability affecting our strategic partners in developing countries; • failure to comply with the U. S. Foreign Corrupt Practices Act, or other applicable anti- bribery regulations; • unwillingness of governments, agencies, similar organizations or other counterparties to honor contracts; • unwillingness of governments, government agencies, courts or similar bodies to enforce contracts that are economically advantageous to AES and less beneficial to government or private party counterparties, against those counterparties; • inability to obtain access to fair and equitable political, regulatory, administrative and legal systems; • adverse changes in government tax policy and tax consequences of operating in multiple jurisdictions; • difficulties in enforcing our contractual rights or enforcing judgments or obtaining a favorable result in local jurisdictions; and • inability to attract and retain qualified personnel. Developing projects in less developed economies also entails greater financing risks and such financing may only be available from multilateral or bilateral international financial institutions or agencies that require governmental guarantees for certain project and sovereign- related risks. There can be no assurance that project financing will be available or that, once secured, will provide similar terms or flexibility as would be expected from a commercial lender. Further, our operations may experience volatility in revenues and operating margin caused by regulatory and economic difficulties, political instability and currency devaluations, which may increase the uncertainty of cash flows from these businesses. Any of these factors could have a material, adverse effect on our business, results of operations and financial condition. **56 | 2023 Annual Report** Our businesses may incur substantial costs and liabilities and be exposed to price volatility as a result of risks associated with the wholesale electricity markets. Some of our businesses sell or buy electricity in the spot markets when they operate at levels that differ from their power sales agreements or retail load obligations or when they do not have any powers sales agreements. Our businesses may also buy electricity in the wholesale spot markets. As a result, we are exposed to the risks of rising and falling prices in those markets. The open market wholesale prices for electricity can be volatile and generally reflect the variable cost of the source generation which could include renewable sources at near zero pricing or ~~60 | 2022 Annual Report~~ thermal sources subject to fluctuating cost of fuels such as coal, natural gas or oil derivative fuels in addition to other factors described below. Consequently, any changes in the generation supply stack and cost of coal, natural gas, or oil derivative fuels may impact the open market wholesale price of electricity. Volatility in market prices for fuel and electricity may result from, among other things: • plant availability in the markets generally; • availability and effectiveness of transmission facilities owned and operated by third parties; • competition and new entrants; • seasonality, hydrology and other weather conditions; • illiquid markets; • transmission, transportation constraints, inefficiencies and / or availability; • renewables source contribution to the supply stack; • increased adoption of distributed generation; • energy efficiency and demand side resources; • available supplies of coal, natural gas, and crude oil and refined products; • generating unit performance; • natural disasters, terrorism, wars, embargoes, pandemics and other catastrophic events; • energy, market and environmental regulation, legislation and policies; • general economic conditions that impact demand and energy consumption; and • bidding behavior and market bidding rules. Wholesale power prices may experience significant volatility in our markets which could impact our operations and opportunities for future growth. The wholesale prices offered for electricity have been volatile in the markets in which we operate due to a variety of factors, including the increased penetration of renewable generation **and energy storage** resources, low- priced natural gas ~~and~~ **,** demand side management **, new regulations and market rules** . The levelized cost of electricity from new solar and wind generation sources has decreased substantially ~~in recent years~~ **over the past decade** as solar panel costs and wind turbine costs have declined, while wind and solar capacity factors have increased. These renewable resources have no fuel costs and very low operational costs, while only operating during certain periods of time (daylight) or weather conditions (higher winds). This, combined with changes in oil, gas, and coal pricing, has led to increasingly volatile electricity markets across our markets. **Changing weather conditions can** ~~Also~~ **also directly impact electricity supply** , **demand** ~~in many markets~~ , **and** ~~new PPAs have been awarded for renewable generation~~ **generations** ~~at~~ **sources, leading to** ~~prices~~ - **price volatility** ~~significantly lower than those awarded just a few years ago~~ . This trend of volatility in wholesale prices could continue and could have a material adverse impact on the financial performance of our existing generation assets to the extent they currently sell or buy power into the spot market to serve our contracts or will seek to sell power into the spot market once our contracts expire. **57 | 2023 Annual Report** Adverse economic developments in China could have a negative impact on demand for electricity in many of our markets. The Chinese market has been driving global materials demand and pricing for commodities over the past decade. Many of these commodities are produced in our key electricity markets. After experiencing rapid growth for more than a decade, China' s economy has experienced decreasing foreign and domestic demand, weak investment, factory overcapacity and oversupply in the property market, and has experienced a significant slowdown in recent years. U. S. tariffs have also had a negative impact on China' s economic growth. Further, China' s Zero COVID strategy contributed to a significant decrease in GDP growth in 2022 **and** ~~. The impact of the recent loosening of that strategy is~~ **its** ~~uncertain at this time~~ **GDP growth in 2023 was below growth rates in the years preceding the pandemic** . Continued slowing in China' s economic growth, demand for commodities and / or material changes in policy could result in lower economic growth and lower demand for electricity in our key markets, which could have a material adverse effect on our results of operations, financial condition and prospects. We may not have adequate risk mitigation or insurance coverage for liabilities. Power generation, distribution and transmission involves hazardous activities. We may become exposed to significant liabilities for which we may not have adequate risk mitigation and / or insurance coverage. Furthermore, ~~61 | 2022 Annual Report~~ through AGIC, AES' captive insurance company, we take certain insurance risk on our businesses. We maintain an amount of insurance protection that we believe is customary, but there can be no assurance it will be sufficient or effective in light of all circumstances, hazards or liabilities to which we may be subject. Our insurance does not cover every potential risk associated with our operations. Adequate coverage at reasonable rates is not always obtainable. In particular, the availability of insurance for coal- fired generation assets has decreased as certain insurers have opted to discontinue or limit offering insurance for such assets. Certain insurers have also withdrawn from insuring hydroelectric assets. We cannot provide assurance that insurance coverage will continue to be available in the amounts or on terms similar to our current policies. In addition, insurance may not fully cover the liability or the consequences of any business interruptions such as natural catastrophes, equipment failure or labor dispute. The occurrence of a significant adverse event not adequately covered by insurance could have a material adverse effect on our business, results or operations, financial condition, and prospects. We may not be able to enter into long- term contracts that reduce volatility in our results. Many of our generation plants conduct business under long- term sales and supply contracts, which helps these businesses to manage risks by reducing the volatility associated with power and input costs and providing a stable revenue and cost structure. In these instances, we rely on power sales contracts with one or a limited number of customers for the majority of, and in some cases all of, the relevant plant' s output and revenues over the term of the power sales contract. The remaining terms of the power sales contracts of our generation plants range from one to more than 20 years. In many cases, we also limit our exposure to fluctuations in fuel prices by entering into long- term contracts for fuel with a limited number of suppliers. In these instances, the cash flows and results of operations are dependent on the continued ability of customers and suppliers to meet their obligations under the relevant power sales contract or fuel supply contract, respectively. Some of our long- term power sales agreements are at prices above current spot market prices and some of our long- term fuel supply contracts are at prices below current market prices. The loss of significant power sales contracts or fuel supply contracts, or the failure by any of the parties to such contracts that prevents us from fulfilling our obligations thereunder, could adversely impact our strategy by resulting in costs that exceed revenue, which could have a material adverse impact on our business, results of operations and financial condition. In addition, depending on market conditions and regulatory regimes, it may be difficult for us to secure long- term contracts, either where our current contracts are expiring or for new development projects. The inability to enter into long- term contracts could require many of our businesses to purchase inputs at market prices and sell electricity into spot markets, which may not be favorable. We have sought to reduce counterparty credit risk under our long- term contracts by entering into power sales contracts with utilities or other customers of strong credit quality and by obtaining guarantees from certain sovereign governments of the customer' s obligations; however, many of our customers do not have or have not maintained, investment- grade credit ratings. Our generation businesses cannot always obtain government guarantees and if they do, the government may not have an investment grade credit rating. We have also located our plants in different geographic areas in order to mitigate the effects of regional economic downturns; however, there can be no assurance that our efforts will be effective. **58 | 2023 Annual Report** Our renewable energy projects and other initiatives face considerable uncertainties. Wind, solar **, hydrogen** , and energy storage projects are subject to substantial risks. Some of these business lines are dependent upon favorable regulatory incentives to support continued investment, and there is significant uncertainty about the extent to which such favorable regulatory incentives will be available in the future. In particular, in the U. S., AES' renewable energy generation growth strategy depends in part on federal, state and local government policies and incentives that support the development, financing, ownership and operation of renewable energy generation projects, including investment tax credits, production tax credits, accelerated depreciation, renewable portfolio standards, feed- in- tariffs and similar programs, renewable energy credit mechanisms, and tax exemptions. If these policies and incentives are changed or eliminated, or AES is unable to use them, there could be a material adverse impact on AES' U. S. renewable growth opportunities, including fewer future PPAs or lower prices in future PPAs, decreased revenues, reduced economic returns on certain project company investments, increased financing costs, and / or difficulty obtaining financing. In addition, **new tariffs,** ~~the U. S. Department of Commerce' s investigation into the antidumping and countervailing~~ duties ~~circumvention claim~~ **or other assessments could be imposed** on **the imports of** solar cells ~~and panels supplied from Malaysia~~ , ~~Vietnam~~ **modules** , **batteries** ~~Thailand, and Cambodia has reached a preliminary determination that circumvention occurred. Additionally, Commerce issued a preliminary determination that circumvention would not be deemed to occur for any solar cells and panels imported from the four countries if the wafers were manufactured outside of China or if no more than two out of six specifically 62 | 2022 Annual Report identified components were produced in China. These preliminary determinations could be modified and final determinations from Commerce are expected in May 2023. If the final determinations result in additional taxes, tariffs, duties,~~ or other ~~assessments on~~ **equipment utilized in our** renewable energy **projects. Any** ~~or the equipment necessary to generate or deliver it, such as antidumping and countervailing duty rates,~~ such developments could impede the realization of our U. S. renewables strategy by resulting in, among other items, lack of a satisfactory market for the development and / or financing of our U. S. renewable energy projects, abandoning the development of certain U. S. renewable energy projects, a loss of our investments in the projects, and / or reduced project returns. Furthermore, production levels for our wind and solar projects may be dependent upon adequate wind or sunlight resulting in volatility in production levels and profitability. For our wind projects, wind resource estimates are based on historical experience when available and on wind resource studies conducted by an independent engineer. These wind resource estimates are not expected to reflect actual wind energy production in any given year, but long- term averages of a resource. As a result, these types of projects face considerable risk, including that favorable regulatory regimes expire or are adversely modified. At the development or acquisition stage, our ability to predict actual performance results may be hindered and the projects may not perform as predicted. There are also risks associated with the fact that some of these projects exist in markets where long- term fixed- price contracts for the major cost and revenue components may be unavailable, which in turn may result in these projects having relatively high levels of volatility. These projects can be capital- intensive and generally are designed with a view to obtaining third- party financing, which may be difficult to obtain. As a result, these capital constraints may reduce our ability to develop or obtain third- party financing for these projects. Further, in the U. S., the tax credits associated with certain renewables projects are earned when the project is placed in service. Delays in executing our renewables projects can result in delays in recognizing those tax credits and adversely impact our short- term financial results. Any of the above factors could have a material adverse effect on our business, financial condition, results of operations and prospects. Our development projects are subject to substantial uncertainties. We are in various stages of developing and constructing renewables projects and power plants. Certain of these projects have signed long- term contracts or made similar arrangements for the sale of electricity. Successful completion of the development of these projects depends upon overcoming substantial risks, including risks relating to siting, financing, engineering and construction, permitting, interconnection and transmission, governmental approvals, commissioning delays, supply chain related disruptions to our access to materials, or the potential for termination of the power sales contract as a result of a failure to meet certain milestones. Objections of or challenges by local communities or interest groups may delay or impede permitting for our development projects. **Additionally, in the U. S., there is a significant backlog of interconnection requests for renewables projects and the average time for receiving interconnection approvals is over four years, with significant variations across projects. There are also severe bottlenecks in the transmission system and the build- out of renewables to meet policy goals for renewable deployment will require substantial upgrades to the transmission network.** In certain cases, our subsidiaries may enter into obligations in the development process even though they have not yet secured financing, PPAs, or other important elements for a successful project. For example, our subsidiaries may instruct contractors to begin the construction process or seek to procure equipment without having **59 | 2023 Annual Report** financing, a PPA or critical permits in place (or enter into a PPA, procurement agreement or other agreement without agreed financing). If the project does not proceed, our subsidiaries may retain certain liabilities. Furthermore, we may undertake significant development costs and subsequently not proceed with a particular project. We believe that capitalized costs for projects under development are recoverable; however, there can be no assurance that any individual project will reach commercial operation. If development efforts are not successful, we may abandon certain projects, resulting in, writing off the costs incurred, expensing related capitalized development costs incurred and incurring additional losses associated with any related contingent liabilities. Our acquisitions may not perform as expected. Acquisitions have been a significant part of our growth strategy historically and more recently as we grow our renewables business. Although acquired businesses may have significant operating histories, we may have limited or no history of owning and operating certain of these businesses, and possibly limited or no experience operating in the country or region where these businesses are located. We also may encounter challenges in integrating and realizing the expected benefits of these acquisitions as well as integration or other one- time costs that are greater ~~63 | 2022 Annual Report~~ than expected. Such businesses may not generate sufficient cash flow to support the indebtedness incurred to acquire them or the capital expenditures needed to develop them; and the rate of return from such businesses may not justify our investment of capital to acquire them. In addition, some of these businesses may have been government owned and some may be operated as part of a larger integrated utility prior to their acquisition. If we were to acquire any of these types of businesses, there can be no assurance that we will be successful in transitioning them to private ownership or that we will not incur unforeseen obligations or liabilities. The COVID- 19 pandemic, or the future outbreak of any other highly infectious or contagious diseases, could impact our business and operations. The COVID- 19 pandemic has severely impacted global economic activity in recent years, including electricity and energy consumption. COVID- 19 or another pandemic could have material and adverse effects on our results of operations, financial condition and cash flows due to, among other factors: • further decline in customer demand as a result of general decline in business activity; • further destabilization of the markets and decline in business activity negatively impacting customers' ability to pay for our services when due or at all, including downstream impacts, whereby the utilities' customers are unable to pay monthly bills or receiving a moratorium from payment obligations, resulting in inability on the part of utilities to make payments for power supplied by our generation companies; • decline in business activity causing our commercial and industrial customers to experience declining revenues and liquidity difficulties that impede their ability to pay for power that we supply; • government moratoriums or other regulatory or legislative actions that limit changes in pricing, delay or suspend customers' payment obligations or permit extended payment terms applicable to customers of our utilities or to our offtakers under power purchase agreements, in particular, to the extent that such measures are not mitigated by associated government subsidies or other support to address any shortfall or deficiencies in payments; • claims by our PPA counterparties for delay or relief from payment obligations or other adjustments, including claims based on force majeure or other legal grounds; • further decline in spot electricity prices; • the destabilization of the markets and decline in business activity negatively impacting our customer growth in our service territories at our utilities; • negative impacts on the health of our essential personnel and on our operations as a result of implementing stay- at- home, quarantine, curfew and other social distancing measures; • delays or inability to access, transport and deliver fuel to our generation facilities due to restrictions on business operations or other factors affecting us and our third- party suppliers; • delays or inability to access equipment or the availability of personnel to perform planned and unplanned maintenance or disruptions in supply chain, which can, in turn, lead to disruption in operations; • a deterioration in our ability to ensure business continuity, including increased cybersecurity attacks related to the work- from- home environment; **60 | 2023 Annual Report** • further delays to our construction projects, including at our renewables projects, and the timing of the completion of renewables projects; • delay or inability to receive the necessary permits for our development projects due to delays or shutdowns of government operations; • delays in achieving our financial goals, strategy and digital transformation; • deterioration of the credit profile of The AES Corporation and / or its subsidiaries and difficulty accessing the capital and credit markets on favorable terms, or at all, and a severe disruption and instability in the global financial markets, or deterioration in credit and financing conditions, which could affect our access to capital necessary to fund business operations or address maturing liabilities on a timely basis; • delays or inability to complete asset sales on anticipated terms or to redeploy capital as set forth in our capital allocation plans; • increased volatility in foreign exchange and commodity markets; • deterioration of economic conditions, demand and other related factors resulting in impairments to long- lived assets; and ~~64 | 2022 Annual Report~~ • delay or inability in obtaining regulatory actions and outcomes that could be material to our business, including for recovery of COVID- 19 related losses and the review and approval of our rates at our U. S. regulated utilities. The impact of the COVID- 19 pandemic also depends on factors, including the effectiveness and timing of updated vaccines to address new variants, the development of more virulent COVID- 19 variants as well as third- party actions taken to contain its spread and mitigate its public health effects. A resurgence or material worsening of the COVID- 19 pandemic could present material uncertainty that could adversely affect our generation facilities, transmission and distribution systems, development projects, energy storage sales by Fluence, and results of operations, financial condition and cash flows. The COVID- 19 pandemic may also heighten many of the other risks described in this section. Competition is increasing and could adversely affect us. The power production markets in which we operate are characterized by numerous strong and capable competitors, many of whom may have extensive and diversified developmental or operating experience (including both domestic and international) and financial resources similar to, or greater than, ours. Further, in recent years, the power production industry has been characterized by strong and increasing competition with respect to both obtaining power sales agreements and acquiring existing power generation assets. In certain markets, these factors have caused reductions in prices contained in new power sales agreements and, in many cases, have caused higher acquisition prices for existing assets through competitive bidding practices. The evolution of competitive electricity markets and the development of highly efficient gas- fired power plants and renewables such as wind and solar have also caused, and could continue to cause, price pressure in certain power markets where we sell or intend to sell power. In addition, the introduction of low- cost disruptive technologies or the entry of non- traditional competitors into our sector and markets could adversely affect our ability to compete, which could have a material adverse effect on our businesses, operating results and financial condition. Supplier and / or customer concentration may expose us to significant financial credit or performance risks. We often rely on a single contracted supplier or a small number of suppliers for the provision of fuel, transportation of fuel and other services required for the operation of some of our facilities. If these suppliers cannot perform, we would seek to meet our fuel requirements by purchasing fuel at market prices, exposing us to market price volatility and the risk that fuel and transportation may not be available during certain periods at any price, which could adversely impact the profitability of the affected business and our results of operations, and could result in a breach of agreements with other counterparties, including, without limitation, offtakers or lenders. Further, our suppliers may source certain materials from areas impacted by the COVID- 19 pandemic, which may cause delays and / or disruptions to our development projects or operations. The financial performance of our facilities is dependent on the credit quality of, and continued performance by, suppliers and customers. At times, we rely on a single customer or a few customers to purchase all or a significant portion of a facility' s output, in some cases under long- term agreements that account for a substantial percentage of the anticipated revenue from a given facility. Counterparties to these agreements may breach or may be unable to **61 | 2023 Annual Report** perform their obligations, due to bankruptcy, insolvency, financial distress or other factors. Furthermore, in the event of a bankruptcy or similar insolvency- type proceeding, our counterparty can seek to reject our existing PPA under the U. S. Bankruptcy Code or similar bankruptcy laws, including those in Puerto Rico. We may not be able to enter into replacement agreements on terms as favorable as our existing agreements, and may have to sell power at market prices. A counterparty' s breach by of a PPA or other agreement could also result in the breach of other agreements, including the affected businesses debt agreements. Any failure of a supplier or customer to fulfill its contractual obligations could have a material adverse effect on our financial results. We may incur significant expenditures to adapt ~~to~~ our businesses to technological changes. Emerging technologies may be superior to, or may not be compatible with, some of our existing technologies, investments and infrastructure, and may require us to make significant expenditures to remain competitive, or may result in the obsolescence of certain of our operating assets. Our future success will depend, in part, on our ability to anticipate and successfully adapt to technological changes, to offer services and products that meet customer demands and evolving industry standards. Technological changes that could impact our businesses include: ~~65 | 2022 Annual Report~~ • technologies that change the utilization of electric generation, transmission and distribution assets, including the expanded cost- effective utilization of distributed generation (e. g., rooftop solar and community solar projects), and energy storage technology; • advances in distributed and local power generation and energy storage that reduce demand for large- scale renewable electricity generation or impact our customers’ performance of long- term agreements; and • more cost- effective batteries for energy storage, advances in solar or wind technology, and advances in alternative fuels and other alternative energy sources. Emerging technologies may also allow new competitors to more effectively compete in our markets or disintermediate the services we provide our customers, including traditional utility and centralized generation services. If we incur significant expenditures in adapting to technological changes, fail to adapt to significant technological changes, fail to obtain access to important new technologies, fail to recover a significant portion of any remaining investment in obsolete assets, or if implemented technology fails to operate as intended, our businesses, operating results and financial condition could be materially adversely affected. Cyber- attacks and data security breaches could harm our business. Our business relies on electronic systems and network technologies to operate our generation, transmission and distribution infrastructure. We also use various financial, accounting and other infrastructure systems. Our infrastructure may be targeted by nation states, hacktivists, criminals, insiders or terrorist groups. In particular, there has been an increased focus on the U. S. energy grid believed to be related to the Russia / Ukraine conflict. Such an attack, by hacking, malware or other means, may interrupt our operations, cause property damage, affect our ability to control our infrastructure assets, cause the release of sensitive customer information or limit communications with third parties. Any loss or corruption of confidential or proprietary data through a breach may: • impact our operations, revenue, strategic objectives, customer and vendor relationships; • expose us to legal claims and / or regulatory investigations and proceedings; • require extensive repair and restoration costs for additional security measures to avert future attacks; • impair our reputation and limit our competitiveness for future opportunities; and • impact our financial and accounting systems and, subsequently, our ability to correctly record, process and report financial information. We have implemented measures to help prevent unauthorized access to our systems and facilities, including certain measures to comply with mandatory regulatory reliability standards. To date, cyber- attacks have not had a material impact on our operations or financial results. We continue to assess potential threats and vulnerabilities and make investments to address them, including global monitoring of networks and systems, identifying and implementing new technology, improving user awareness through employee security training, and updating our security policies as well as those for third- party providers. We cannot guarantee the extent to which our security measures will prevent future cyber- attacks and security breaches or that our insurance coverage will adequately cover any losses we may experience. Further, we do not control certain of joint ventures or our equity method investments and cannot guarantee that their efforts will be effective. **62 | 2023 Annual Report** Certain of our businesses are sensitive to variations in weather and hydrology. Our businesses are affected by variations in general weather patterns and unusually severe weather. Our businesses forecast electric sales based on best available information and expectations for weather, which represents a long- term historical average. While we also consider possible variations in normal weather patterns and potential impacts on our facilities and our businesses, there can be no assurance that such planning can prevent these impacts, which can adversely affect our business. Generally, demand for electricity peaks in winter and summer. Typically, when winters are warmer than expected and summers are cooler than expected, demand for energy is lower, resulting in less demand for electricity than forecasted. Significant variations from normal weather where our businesses are located could have a material impact on our results of operations. Changes in weather can also affect the production of electricity at power generation facilities, including, but not limited to, our wind and solar facilities. For example, the level of wind resource affects the revenue produced by wind generation facilities. Because the levels of wind and solar resources are variable and difficult to predict, our results of operations for individual wind and solar facilities specifically, and our results of operations generally, may vary significantly from period to period, depending on the level of available resources. To the extent that resources are not available at planned levels, the financial results from these facilities may be less than expected. In addition, ~~66 | 2022 Annual Report~~ we are dependent upon hydrological conditions prevailing from time to time in the broad geographic regions in which our hydroelectric generation facilities are located. Changes in temperature, precipitation and snow pack conditions also could affect the amount and timing of hydroelectric generation. To the extent that hydrological conditions result in droughts or other conditions negatively affect our hydroelectric generation business, such as has happened in Panama in 2019 and Brazil in 2021, our results of operations can be materially adversely affected. Additionally, our contracts in certain markets where hydroelectric facilities are prevalent may require us to purchase power in the spot markets when our facilities are unable to operate at anticipated levels and the price of such spot power may increase substantially in times of low hydrology. Severe weather and natural disasters may present significant risks to our business. Weather conditions directly influence the demand for electricity and natural gas and other fuels and affect the price of energy and energy- related commodities. In addition, severe weather and natural disasters, such as hurricanes, floods, tornadoes, icing events, earthquakes, dam failures and tsunamis can be destructive and could prevent us from operating our business in the normal course by causing power outages and property damage, reducing revenue, affecting the availability of fuel and water, causing injuries and loss of life, and requiring us to incur additional costs, for example, to restore service and repair damaged facilities, to obtain replacement power and to access available financing sources. Our power plants could be placed at greater risk of damage should changes in the global climate produce unusual variations in temperature and weather patterns, resulting in more intense, frequent and extreme weather events, including heatwaves, fewer cold temperature extremes, abnormal levels of precipitation resulting in river and coastal urban floods in North America or reduced water availability and increased flooding across Central and South America, and changes in coast lines due to sea level change. Depending on the nature and location of the facilities and infrastructure affected, any such incident also could cause catastrophic fires; releases of natural gas, natural gas odorant, or other greenhouse gases; explosions, spills or other significant damage to natural resources or property belonging to third parties; personal injuries, health impacts or fatalities; or present a nuisance to impacted communities. Such incidents may also impact our business partners, supply chains and transportation, which could negatively impact construction projects and our ability to provide electricity and natural gas to our customers. A disruption or failure of electric generation, transmission or distribution systems or natural gas production, transmission, storage or distribution systems in the event of a hurricane, tornado or other severe weather event, or otherwise, could prevent us from operating our business in the normal course and could result in any of the adverse consequences described above. At our businesses where cost recovery is available, recovery of costs to restore service and repair damaged facilities is or may be subject to regulatory approval, and any determination by the regulator not to permit timely and full recovery of the costs incurred. Any of the foregoing could have a material adverse effect on our business, financial condition, results of operations, reputation and prospects. **63 | 2023 Annual Report** We do not control certain aspects of our joint ventures or our equity method investments. We have invested in some joint ventures in which our subsidiaries share operational, management, investment and / or other control rights with our joint venture partners. In many cases, we may exert influence over the joint venture pursuant to a management contract, by holding positions on the board of the joint venture company or on management committees and / or through certain limited governance rights, such as rights to veto significant actions. However, we do not always have this type of influence over the project or business and we may be dependent on our joint venture partners or the management team of the joint venture to operate, manage, invest or otherwise control such projects or businesses. Our joint venture partners or the management team of our joint ventures may not have the level of experience, technical expertise, human resources, management and other attributes necessary to operate these projects or businesses optimally, and they may not share our business priorities. In some joint venture agreements in which we do have majority control of the voting securities, we have entered into shareholder agreements granting minority rights to the other shareholders. The approval of joint venture partners also may be required for us to receive distributions of funds from jointly owned entities or to transfer our interest in projects or businesses. The control or influence exerted by our joint venture partners may result in operational management and / or investment decisions that are different from the decisions we would make and could impact the profitability and value of these joint ventures. In addition, if a joint venture partner becomes insolvent or bankrupt or is otherwise unable to meet its obligations to or share of liabilities for the joint venture, we may be responsible for meeting certain obligations of the joint ventures to the extent provided for in our governing documents or applicable law. ~~67 | 2022 Annual Report~~ Further, we have a significant equity method investment in Fluence. As a publicly listed company, Fluence is governed by its own Board of Directors, whose members have fiduciary duties to the Fluence shareholders. While we have certain rights to appoint representatives to the Fluence Board of Directors, the interests of the Fluence shareholders, as represented by the Fluence Board of Directors, may not align with our interests or the interests of our securityholders. As of December 31, ~~2022~~ **2023** , Fluence continues to report that a material weakness in its internal control over revenue recognition and related inventory has not yet been remediated. Such material weakness can impact the reliability of the Fluence financial information that we may include as part of our financial information. In addition, we are generally dependent on the management team of our equity method investments to operate and control such projects or businesses. While we may exert influence pursuant to having positions on the boards of such investments and / or through certain limited governance rights, such as rights to veto significant actions, we do not always have this type of influence and the scope and impact of such influence may be limited. The management teams of our equity method investments may not have the level of experience, technical expertise, human resources, management and other attributes necessary to operate these projects or businesses optimally, and they may not share our business priorities, which could have a material adverse effect on value of such investments as well as our growth, business, financial condition, results of operations and prospects. Fluctuations in currency exchange rates may impact our financial results and position. Our exposure to currency exchange rate fluctuations results primarily from the translation exposure associated with the preparation of the Consolidated Financial Statements, as well as from transaction exposure associated with transactions in currencies other than an entity' s functional currency. While the Consolidated Financial Statements are reported in U. S. dollars, the financial statements of several of our subsidiaries outside the U. S. are prepared using the local currency as the functional currency and translated into U. S. dollars by applying appropriate exchange rates. As a result, fluctuations in the exchange rate of the U. S. dollar relative to the local currencies where our foreign subsidiaries report could cause significant fluctuations in our results. In addition, while our foreign operations expenses are generally denominated in the same currency as corresponding sales, we have transaction exposure to the extent receipts and expenditures are not denominated in the subsidiary' s functional currency. Moreover, the costs of doing business abroad may increase as a result of adverse exchange rate fluctuations. We may not be adequately hedged against our exposure to changes in commodity prices or interest rates. We routinely enter into contracts to hedge a portion of our purchase and sale commitments for electricity, fuel requirements and other commodities to lower our financial exposure related to commodity price fluctuations. As part of this strategy, we routinely utilize fixed price or indexed forward physical purchase and sales contracts, futures, financial swaps, and option contracts traded in the over- the- counter markets or on exchanges. We also enter into contracts which help us manage our interest rate exposure. However, we may not cover the entire exposure of our assets or positions to market price or interest rate volatility, and the coverage will vary over time. Furthermore, the risk management practices we have in place may not always perform as planned. In particular, if prices of commodities or interest rates significantly deviate from historical prices or interest rates or if the price or interest rate volatility or distribution of these changes deviates from historical norms, our risk management practices may not protect us from significant losses. As a result, fluctuating commodity prices or interest rates may negatively impact our financial results to the extent we have unhedged or inadequately hedged positions. In addition, certain types of economic hedging activities may not qualify for hedge accounting under U. S. GAAP, resulting in increased volatility in our net income. The Company may also suffer losses associated with" basis risk," which is the difference in performance between the hedge instrument and the underlying exposure (usually the pricing node of the generation facility). Furthermore, there is a risk that the current counterparties to these arrangements may fail or are unable to perform part or all of their obligations under these arrangements, while we seek to protect against that by utilizing strong credit requirements and exchange trades, these protections may not fully cover the exposure in the event of a counterparty default. For our businesses with PPA pricing that does not completely pass through our fuel costs, the businesses attempt to manage the exposure through flexible fuel purchasing and timing of entry and terms of our fuel supply agreements; however, these risk management efforts may not be successful and the resulting commodity exposure could have a material impact on these businesses and / or our results of operations. Our utilities businesses may experience slower growth in customers or in customer usage. Customer growth and customer usage in our utilities businesses are affected by external factors, including mandated energy efficiency measures, demand side management requirements, and economic and demographic conditions, such as population changes, job and income growth, housing starts, new business formation and the overall level of economic activity. A lack of growth, or a decline, in the number of customers or in customer demand for electricity may cause us to not realize the anticipated benefits from significant investments and expenditures and have a material adverse effect on our business, financial condition, results of operations and prospects. Some of our subsidiaries participate in defined benefit pension plans and their net pension plan obligations may require additional significant contributions. We have 28 defined benefit plans, five at U. S. subsidiaries and the remaining plans at foreign subsidiaries, which cover substantially all of the employees at these subsidiaries. Pension costs are based upon a number of actuarial assumptions, including an expected long- term rate of return on pension plan assets, the expected life span of pension plan beneficiaries and the discount rate used to determine the present value of future pension obligations. Any of these assumptions could prove to be incorrect, resulting in a shortfall of pension plan assets compared to pension obligations under the pension plan. We periodically evaluate the value of the pension plan assets to ensure that they will be sufficient to fund the respective pension obligations. Downturns in the debt and / or equity markets, or the inaccuracy of any of our significant assumptions underlying the estimates of our subsidiaries' pension plan obligations, could result in a material increase in pension expense and future funding requirements. Our subsidiaries that participate in these plans are responsible for satisfying the funding requirements required by law in their respective jurisdictions for any shortfall of pension plan assets as compared to pension obligations under the pension plan, which may necessitate additional cash contributions to the pension plans that could adversely affect our and our subsidiaries' liquidity. See Item 7. — Management' s Discussion and Analysis — Critical Accounting Policies and Estimates — Pension and Other Postretirement Plans and Note 15 — Benefit Plans included in Item 8. — Financial Statements and Supplementary Data. Impairment of long- lived assets would negatively impact our consolidated results of operations and net worth. Long- lived assets are initially recorded at cost or fair value, are depreciated over their estimated useful lives, and are evaluated for impairment only when impairment indicators are present, such as deterioration in general economic conditions or our operating or regulatory environment; increased competitive environment; lower forecasted revenue; increase in fuel costs, particularly costs that we are unable to pass through to customers; increase in environmental compliance costs; negative or declining cash flows; loss of a key contract or customer, particularly when we are unable to replace it on equally favorable terms; developments in our strategy; divestiture of a significant component of our business; or adverse actions or assessments by a regulator. Any impairment of long- lived assets could have a material adverse effect on our business, financial condition, results of operations, and prospects. **65 | 2023 Annual Report** Risks associated with Governmental Regulation and Laws Our operations are subject to significant government regulation and could be adversely affected by changes in the law or regulatory schemes. Our ability to predict, influence or respond appropriately to changes in law or regulatory schemes, including obtaining expected or contracted increases in electricity tariff or contract rates or tariff adjustments for increased expenses, could adversely impact our results of operations. Furthermore, changes in laws or regulations or changes in the application or interpretation of regulatory provisions in jurisdictions where we operate, particularly at our utilities where electricity tariffs are subject to regulatory review or approval, could adversely affect our business, including: • changes in the determination, definition or classification of costs to be included as reimbursable or pass- through costs to be included in the rates we charge our customers, including but not limited to costs incurred to upgrade our power plants to comply with more stringent environmental regulations; • changes in the determination of an appropriate rate of return on invested capital or that a utility' s operating income or the rates it charges customers are too high, resulting in a rate reduction or consumer rebates; • changes in the definition or determination of controllable or non- controllable costs; • changes in tax law; • changes in law or regulation that limit or otherwise affect the ability of our counterparties (including sovereign or private parties) to fulfill their obligations (including payment obligations) to us; ~~69 | 2022 Annual Report~~ • changes in environmental law that impose additional costs or limit the dispatch of our generating facilities; • changes in the definition of events that qualify as changes in economic equilibrium; • changes in the timing of tariff increases; • other changes in the regulatory determinations under the relevant concessions; • other changes related to licensing or permitting which affect our ability to conduct business; or • other changes that impact the short- or long- term price- setting mechanism in the our markets. Furthermore, in many countries where we conduct business, the regulatory environment is constantly changing and it may be difficult to predict the impact of the regulations on our businesses. The impacts described above could also result from our efforts to comply with European Market Infrastructure Regulation, which includes regulations related to the trading, reporting and clearing of derivatives and similar regulations may be passed in other jurisdictions where we conduct business. Any of the above events may result in lower operating margins and financial results for the affected businesses. Several of our businesses are subject to potentially significant remediation expenses, enforcement initiatives, private party lawsuits and reputational risk associated with CCR. CCR generated at our current and former coal- fired generation plant sites, is currently handled and / or has been handled by: placement in onsite CCR ponds; disposal and beneficial use in onsite and offsite permitted, engineered landfills; use in various beneficial use applications, including encapsulated uses and structural fill; and used in permitted offsite mine reclamation. CCR currently remains onsite at several of our facilities, including in CCR ponds. The EPA' s final CCR rule provides that enforcement actions can be commenced by the EPA, states, or territories, and private lawsuits. Compliance with the U. S. federal CCR rule; amendments to the federal CCR rule; or federal, state, territory, or foreign rules or programs addressing CCR may require us to incur substantial costs. In addition, the Company and our businesses may face CCR- related lawsuits in the United States and / or internationally that may expose us to unexpected potential liabilities. Furthermore, CCR- related litigation may also expose us to unexpected costs. In addition, CCR, and its production at several of our facilities, have been the subject of significant interest from environmental non- governmental organizations and have received national and local media attention. The direct and indirect effects of such media attention, and the demands of responding to and addressing it, may divert management time and attention. Any of the foregoing could have a material adverse effect on our business, financial condition, results of operations, reputation and prospects. **66 | 2023 Annual Report** Some of our U. S. businesses are subject to the provisions of various laws and regulations administered by FERC, NERC and by state utility commissions that can have a material effect on our operations. The AES Corporation is a registered electric **utility** holding company under the PUHCA 2005 as enacted as part of the EPAct 2005. PUHCA 2005 eliminated many of the restrictions that had been in place under the U. S. Public Utility Holding Company Act of 1935, while continuing to provide FERC and state utility commissions with enhanced access to the books and records of certain utility holding companies. PUHCA 2005 also creates additional potential challenges and opportunities. By removing some barriers to mergers and other potential combinations, the creation of large, geographically dispersed utility holding companies is more likely. These entities may have enhanced financial strength and therefore an increased ability to compete with us in the U. S. ~~Other parts of the EPAct 2005 allow FERC to remove the PURPA purchase / sale obligations from utilities if there are adequate opportunities to sell into competitive markets. FERC has exercised this power with a rebuttable presumption that utilities located within the control areas of MISO, PJM, ISO New England, Inc., the New York Independent System Operator, Inc., and ERCOT are not required to purchase or sell power from or to QFs above a certain size. Additionally, FERC has the power to remove the purchase / sale obligations of individual utilities on a case- by- case basis. While these changes do not affect existing contracts, certain of our QFs that have had sales contracts expire are now facing a more difficult market environment and that is likely to continue for other AES QFs with existing contracts that will expire over time.~~ FERC strongly encourages competition in wholesale electric markets. Increased ~~competition~~ **market participation** may have the effect of lowering our operating margins. Among other steps, FERC has encouraged RTOs and ISOs to develop demand response bidding programs as a mechanism for responding to peak electric demand **and has also encouraged the integration of distributed energy resources**. These programs may reduce the value of generation assets ~~. Similarly~~ , **particularly utility- scale projects.** FERC is **also** encouraging the construction of new transmission ~~70 | 2022 Annual Report~~ infrastructure in accordance with provisions of EPAct 2005. Although new transmission lines may increase market opportunities, they may also increase the competition in our existing markets **. Additionally, the market rules in the wholesale electric markets in which we operate continue to evolve in response to, among other things, increasing penetration by renewable energy resources and energy storage systems. For example, some wholesale electric market regions have either implemented or are considering changes to how resource adequacy or capacity attributes are allocated to intermittent generating resources. These changes could result in lower resource adequacy or capacity attribute revenues**

for our renewable generating facilities in these regions . FERC has civil penalty authority over violations of any provision of Part II of the FPA, which concerns wholesale generation or transmission, as well as any rule or order issued thereunder. The FPA also provides for the assessment of criminal fines and imprisonment for violations under the FPA. This penalty authority was enhanced in EPAct 2005. As a result, FERC is authorized to assess a maximum penalty authority established by statute and such penalty authority has been and will continue to be adjusted periodically to account for inflation. With this expanded enforcement authority, violations of the FPA and FERC' s regulations could potentially have more serious consequences than in the past. Pursuant to EPAct 2005, the NERC has been certified by FERC as the **Electric Reliability Organization ("** ERO **")** to develop mandatory and enforceable electric system reliability standards applicable throughout the U. S. to improve the overall reliability of the electric grid. These standards are subject to FERC review and approval. Once approved, the reliability standards may be enforced by FERC independently, or, alternatively, by the ERO and regional reliability organizations with responsibility for auditing, investigating and otherwise ensuring compliance with reliability standards, subject to FERC oversight. Violations of NERC reliability standards are subject to FERC' s penalty authority under the FPA and EPAct 2005. Our U. S. utility businesses face significant regulation by their respective state utility commissions. The regulatory discretion is reasonably broad in both Indiana and Ohio and includes regulation as to services and facilities, the valuation of property, the construction, purchase, or lease of electric generating facilities, the classification of accounts, rates of depreciation, the increase or decrease in retail rates and charges, the issuance of certain securities, the acquisition and sale of some public utility properties or securities and certain other matters. These businesses face the risk of unexpected or adverse regulatory action which could have a material adverse effect on our results of operations, financial condition, and cash flows. See Item 1. — Business — ~~US and~~ Utilities SBU. Our businesses are subject to stringent environmental laws, rules and regulations. Our businesses are subject to stringent environmental laws and regulations by many federal, regional, state and local authorities, international treaties and foreign governmental authorities. These laws and regulations generally concern emissions into the air, effluents into the water, use of water, wetlands preservation, remediation of contamination, waste disposal, endangered species and noise regulation. Failure to comply with such laws and regulations or to obtain or comply with any associated environmental permits could result in fines or other sanctions. For example, in recent years, the EPA has issued NOVs to a number of coal- fired generating plants alleging wide- spread violations of the new source review and prevention of significant deterioration provisions of the CAA. The EPA has brought suit against and obtained settlements with many companies for allegedly making major **67 | 2023 Annual Report** modifications to a coal- fired generating units without proper permit approvals and without installing best available control technology. The primary focus of these NOVs has been emissions of SO_2 and NO_x and the EPA has imposed fines and required companies to install improved pollution control technologies to reduce such emissions. In addition, state regulatory agencies and non- governmental environmental organizations have pursued civil lawsuits against power plants in situations that have resulted in judgments and / or settlements requiring the installation of expensive pollution controls or the accelerated retirement of certain electric generating units. Furthermore, Congress and other domestic and foreign governmental authorities have either considered or implemented various laws and regulations to restrict or tax certain emissions, particularly those involving air emissions and water discharges. These laws and regulations have imposed, and proposed laws and regulations could impose in the future, additional costs on the operation of our power plants. See Item 1. — Business — Environmental and Land- Use Regulations. We have incurred and will continue to incur significant capital and other expenditures to comply with these and other environmental laws and regulations. Changes in, or new development of, environmental restrictions may force us to incur significant expenses or expenses that may exceed our estimates. There can be no assurance that we would be able to recover all or any increased environmental costs from our customers or that our business, financial condition, including recorded asset values or results of operations, would not be materially and adversely affected. ~~71 | 2022 Annual Report~~ Concerns about GHG emissions and the potential risks associated with climate change have led to increased regulation and other actions that could impact our businesses. International, federal and various regional and state authorities regulate GHG emissions and have created financial incentives to reduce them. In ~~2022~~ **2023** , the Company' s subsidiaries operated businesses that had total CO_2 emissions of approximately ~~40~~ **34** million metric tonnes, approximately ~~15~~ **11** million of which were emitted by our U. S. businesses (both figures are ownership adjusted). The Company uses CO_2 emission estimation methodologies supported by" The Greenhouse Gas Protocol" reporting standard on GHG emissions. For existing power generation plants, CO_2 emissions data are either obtained directly from plant continuous emission monitoring systems or calculated from actual fuel heat inputs and fuel type CO_2 emission factors. This estimate is based on a number of projections and assumptions that may prove to be incorrect, such as the forecasted dispatch, anticipated plant efficiency, fuel type, CO_2 emissions rates and our subsidiaries' achieving completion of such construction and development projects. While actual emissions may vary substantially; ~~the~~ **certain** projects under construction or development when completed will increase emissions of our portfolio and therefore could increase the risks associated with regulation of GHG emissions. There currently is no U. S. federal legislation imposing mandatory GHG emission reductions (including for CO_2) that affects our electric power generation facilities; however, in 2015, the EPA promulgated a rule establishing New Source Performance Standards for CO_2 emissions for newly constructed and modified / reconstructed fossil- fueled electric utility steam generating units larger than 25 MW and in 2018 proposed revisions to the rule. **On May 23, 2023, the EPA published a proposed rule that would establish CO_2 emissions limits for certain new fossil- fuel fired stationary combustion turbines that commence construction or are modified after May 23, 2023.** In 2019, the EPA promulgated the Affordable Clean Energy (ACE) Rule which ~~establishes heat rate improvement measures as the best system of emissions reductions for existing coal- fired electric generating units. On January 19, 2021, the D. C. Circuit vacated and remanded to the EPA the ACE Rule, but withheld issuance of the mandate that~~ would **have replaced** ~~effectuate its decision. On February 22, 2021,~~ the ~~D. C. Circuit granted~~ EPA' s ~~unopposed motion for a partial stay of the issuance of the mandate~~ **2015 Clean Power Plan Rule (" CPP"). However,** on **January 19** ~~vacating the repeal of the CPP. On March 5~~ , 2021, the D. C. Circuit **vacated and remanded** ~~issued the partial mandate effectuating the vacatur of~~ the ACE Rule.

Subsequently ~~In effect~~ , **on** ~~the CPP did not take effect while the EPA is addressing the remand of the ACE rule by promulgating a new Section 111 (d) rule to regulate greenhouse gases from existing electric generating units. On October 29, 2021, the U. S. Supreme Court granted petitions to review the decision by the D. C. Circuit to vacate the ACE Rule. On~~ June 30, 2022, **the** Supreme Court reversed the judgment of the D. C. Circuit Court and remanded for further proceedings consistent with its opinion **, holding** ~~. The opinion held~~ that the " generation shifting " approach in the CPP exceeded the authority granted to **the** EPA by Congress under Section 111 (d) of the CAA. As a result of the June 30, 2022 Supreme Court decision, on October 27, 2022, the D. C. Circuit **issued a** ~~recalled its March 5, 2021~~ partial mandate **,** ~~and issued a new partial mandate~~ holding pending challenges to the ACE Rule in abeyance ~~while~~ **. On May 23, 2023, the** EPA ~~develops~~ **published** a ~~replacement~~ **proposed** rule **that would vacate the ACE Rule, establish emissions guidelines in the form of CO2 emissions limitations for certain existing EGUs and would require states to develop State Plans that establish standards of performance for such EGUs that are at least as stringent as the EPA' s emissions guidelines. Depending on various EGU- specific factors, the bases of proposed emissions guidelines range from routine methods of operation to carbon capture and sequestration or co- firing low- GHG hydrogen starting in the 2030s** . The impact of the results of further proceedings ~~and potential future greenhouse gas emissions regulations remains uncertain, but it could be material. The impact of the results of such litigation~~ and potential future greenhouse gas emissions regulations remains uncertain, but it could be material. In 2010, the EPA adopted regulations pertaining to GHG emissions that require new and existing sources of GHG emissions to potentially obtain new source review permits from the EPA prior to construction or modification. In 2016, the U. S. Supreme Court ruled that such permitting would only be required if such sources also must obtain a new source review permit for increases in other regulated pollutants. For further discussion of the regulation of GHG **68 | 2023 Annual Report** emissions, see Item 1. — Business — Environmental and Land- Use Regulations — U. S. Environmental and Land- Use Legislation and Regulations — Greenhouse Gas Emissions above. The Parties to the United Nations Framework Convention on Climate Change' s Paris Agreement established a long- term goal of keeping the increase in global average temperature well below 2 ° C above pre- industrial levels. We anticipate that the Paris Agreement will continue the trend toward efforts to decarbonize the global economy and to further limit GHG emissions. The impact of GHG regulation on our operations will depend on a number of factors, including the degree and timing of GHG emissions reductions required under any such legislation or regulation, the cost of emissions reduction equipment and the price and availability of offsets, the extent to which market based compliance options are available, the extent to which our subsidiaries would be entitled to receive GHG emissions allowances without having to purchase them in an auction or on the open market and the impact of such legislation or regulation on the ability of our subsidiaries to recover costs incurred through rate increases or otherwise. The costs of compliance could be substantial. Our non- utility, generation subsidiaries seek to pass on any costs arising from CO2 emissions to contract counterparties. Likewise, our utility subsidiaries seek to pass on any costs arising from CO2 emissions to customers. However, there can be no assurance that we will effectively pass such costs onto the contract counterparties or ~~72 | 2022 Annual Report~~ customers, respectively, or that the cost and burden associated with any dispute over which party bears such costs would not be burdensome and costly. Furthermore, according to the Intergovernmental Panel on Climate Change, physical risks from climate change could include, but are not limited to, increased runoff and earlier spring peak discharge in many glacier and snow- fed rivers, warming of lakes and rivers, an increase in sea level, and changes and variability in precipitation and in the intensity and frequency of extreme weather events. Physical impacts may have the potential to significantly affect our business and operations. For example, extreme weather events could result in increased downtime and operation and maintenance costs at our electric power transmission and distribution assets and facilities. Variations in weather conditions, primarily temperature and humidity, would also be expected to affect the energy needs of customers. A decrease in energy consumption could decrease our revenues. In addition, while revenues would be expected to increase if the energy consumption of customers increased, such increase could prompt the need for additional investment in generation capacity. In addition to government regulators, many groups, including politicians, environmentalists, the investor community and other private parties have expressed increasing concern about GHG emissions. New regulation, such as the initiatives in Chile ~~, Hawaii,~~ and the Puerto Rico Energy Public Policy Act, may adversely affect our operations. See Item 7. — Management' s Discussion and Analysis — Key Trends and Uncertainties — Decarbonization Initiatives. Responding to these decarbonization initiatives, including developments in our strategy in line with these initiatives may present challenges to our business. We may be unable to develop our renewables platform as quickly as anticipated. Further, we may be unable to dispose of coal- fired generation assets at anticipated prices, the estimated useful lives of these assets may decrease, and the value of such assets may be impaired. These initiatives could also result in the early retirement of coal- fired generation facilities, which could result in stranded costs if regulators disallow full recovery of investments. Negative public perception of our GHG emissions could have an adverse effect on our relationships with third parties, our ability to attract additional customers, our business development opportunities, and our ability to access finance and insurance for our coal- fired generation assets. In addition, plaintiffs previously brought tort lawsuits that were dismissed against the Company because of its subsidiaries' GHG emissions. Future similar lawsuits may prevail or result in damages awards or other relief. We may also be subject to risks associated with the impact on weather conditions. See Certain of our businesses are sensitive to variations in weather and hydrology and Severe weather and natural disasters may present significant risks to our business and adversely affect our financial results within this section for more information. If any of the foregoing risks materialize, costs may increase or revenues may decrease and there could be a material adverse effect on our results of operations, financial condition, cash flows and reputation. Concerns about data privacy have led to increased regulation and other actions that could impact our businesses. In the ordinary course of business, we collect and retain sensitive information, including personal identifiable information about customers, employees, customer energy usage and other information as well as information regarding business partners and other third parties, some of which may constitute confidential information. The theft, damage or improper disclosure of sensitive electronic data collected by us can subject us to penalties for **69 | 2023 Annual Report** violation of applicable privacy laws, subject us to claims from third parties, require compliance with notification and monitoring regulations, and harm our reputation. Although we maintain technical and organizational measures to protect personal identifiable information and other confidential information, breaches of, or disruptions to, our information technology systems could result in legal claims, liability or penalties under privacy laws or damage to operations or to the company' s reputation, which could adversely affect our business. We are also subject to various data privacy and security laws and regulations globally, as well as contractual requirements, as a result of having access to and processing confidential and personal identifiable information in the course of business. If we are unable to comply with applicable laws and regulations or with our contractual commitments, as well as maintain reliable information technology systems and appropriate controls with respect to privacy and security requirements, we may suffer regulatory consequences that could be costly or otherwise adversely affect our business. In addition, any actual or perceived failure on the part of one of our equity affiliates could have a material adverse impact on our results of operations and prospects. ~~73 | 2022 Annual Report~~ Tax legislation initiatives or challenges to our tax positions could adversely affect us. We operate in the U. S. and various non- U. S. jurisdictions and are subject to the tax laws and regulations of the U. S. federal, state and local governments and of many non- U. S. jurisdictions. From time to time, legislative measures may be enacted that could adversely impact our overall tax positions regarding income or other taxes, our effective tax rate or tax payments. For example, in the third quarter of 2022, the Inflation Reduction Act (the " IRA ") was signed into law in the United States. The IRA includes provisions that are expected to benefit the U. S. clean energy industry, including increases, extensions and / or new tax credits for onshore and offshore wind, solar, storage and hydrogen projects. We expect that the extension of the current solar investment tax credits (" ITCs"), as well as higher credits available for projects that satisfy wage and apprenticeship requirements, will increase demand for our renewables products. In the U. S., the IRA includes a 15 % corporate alternative minimum tax based on adjusted financial statement income. **In** ~~We are currently evaluating the applicability and effect of the new law and additional guidance issued in the fourth quarter of 2022. With respect to international tax reform, in~~ the fourth quarter of 2022, the European Commission adopted an amended Directive on Pillar 2 establishing a global minimum tax at a 15 % rate. The adoption requires EU Member States to transpose the Directive into their respective national laws by December 31, 2023 ~~,~~ for the rules to come into effect as of January 1, 2024. **During 2023, the Netherlands, Bulgaria, and Vietnam adopted legislation to implement Pillar 2 effective as of January 1, 2024.** We will continue to monitor **the** issuance of draft legislation in ~~Bulgaria and~~ other ~~relevant~~ **non-** EU ~~Member States~~ **countries where the Company operates that are considering Pillar 2 amendments** . The ~~Impact~~ **impact** to the Company remains unknown but may be material. Risks Related to our Indebtedness and Financial Condition We have a significant amount of debt. As of December 31, ~~2022~~ **2023** , we had approximately $ ~~23~~ **27** billion of outstanding indebtedness on a consolidated basis. All outstanding borrowings under The AES Corporation' s revolving credit facility are unsecured. Most of the debt of The AES Corporation' s subsidiaries, however, is secured by substantially all of the assets of those subsidiaries. A substantial portion of cash flow from operations must be used to make payments on our debt. Furthermore, since a significant percentage of our assets are used to secure this debt, this reduces the amount of collateral available for future secured debt or credit support and reduces our flexibility in operating these secured assets. This level of indebtedness and related security could have other consequences, including: • making it more difficult to satisfy debt service and other obligations; • increasing our vulnerability to general adverse industry and economic conditions, including adverse changes in foreign exchange rates, interest rates and commodity prices; • reducing available cash flow to fund other corporate purposes and grow our business; • limiting our flexibility in planning for, or reacting to, changes in our business and the industry; • placing us at a competitive disadvantage to our competitors that are not as highly leveraged; and • limiting, along with financial and other restrictive covenants relating to such indebtedness, our ability to borrow additional funds, pay cash dividends or repurchase common stock. The agreements governing our indebtedness, including the indebtedness of our subsidiaries, limit, but do not prohibit the incurrence of additional indebtedness. If we were to become more leveraged, the risks described above would increase. Further, our actual cash requirements may be greater than expected and our cash flows may not be sufficient to repay all of the outstanding debt as it becomes due. In that event, we may not be able to borrow money, **70 | 2023 Annual Report** sell assets, raise equity or otherwise raise funds on acceptable terms to refinance our debt as it becomes due. In addition, our ability to refinance existing or future indebtedness will depend on the capital markets and our financial condition at that time. Any refinancing of our debt could result in higher interest rates or more onerous covenants that restrict our business operations. See Note 11 — Debt included in Item 8. — Financial Statements and Supplementary Data for a schedule of our debt maturities. The AES Corporation' s ability to make payments on its outstanding indebtedness is dependent upon the receipt of funds from our subsidiaries. The AES Corporation is a holding company with no material assets other than the stock of its subsidiaries. Almost all of The AES Corporation' s cash flow is generated by the operating activities of its subsidiaries. Therefore, The AES Corporation' s ability to make payments on its indebtedness and to fund its other obligations is dependent not only on the ability of its subsidiaries to generate cash, but also on the ability of the subsidiaries to distribute cash to it in the form of dividends, fees, interest, tax sharing payments, loans or otherwise. Our subsidiaries face various ~~74 | 2022 Annual Report~~ restrictions in their ability to distribute cash. Most of the subsidiaries are obligated, pursuant to loan agreements, indentures or non- recourse financing arrangements, to satisfy certain restricted payment covenants or other conditions before they may make distributions. Business performance and local accounting and tax rules may also limit dividend distributions. Subsidiaries in foreign countries may also be prevented from distributing funds as a result of foreign governments restricting the repatriation of funds or the conversion of currencies. Our subsidiaries are separate and distinct legal entities and, unless they have expressly guaranteed The AES Corporation' s indebtedness, have no obligation, contingent or otherwise, to pay any amounts due pursuant to such debt or to make any funds available whether by dividends, fees, loans or other payments. Existing and potential future defaults by subsidiaries or affiliates could adversely affect us. We attempt to finance our domestic and foreign projects through non- recourse debt or" non- recourse financing" that requires the loans to be repaid solely from the project' s revenues and provide that the repayment of the loans (and interest thereon) is secured solely by the capital stock, physical assets, contracts and cash flow of that project subsidiary or affiliate. As of December 31, ~~2022~~ **2023** , we had approximately $ ~~23~~ **27** billion of outstanding indebtedness on a consolidated basis, of which approximately $ ~~3~~ **4** . ~~9~~ **5** billion was recourse debt of the Parent Company and approximately $ ~~19~~ **22** . ~~4~~ **1** billion was non- recourse debt. In some non- recourse financings, the Parent Company has explicitly agreed, in the form of guarantees, indemnities, letters of credit, letter of credit reimbursement agreements and agreements to pay, to undertake certain limited obligations and contingent liabilities, most of which will only be effective or will be terminated upon the occurrence of future events. **In the case of our U. S. renewables projects involving tax equity investors or purchasers of tax credits, we provide customary Parent Company or subsidiary guarantees to the tax equity investors or tax credit purchasers that require the Parent Company or subsidiary to bear the risk of any IRS recapture or disallowance of certain tax benefits they receive in connection with the transaction.** Certain of our subsidiaries are in default with respect to all or a portion of their outstanding indebtedness. The total debt classified as current in our Consolidated Balance Sheets related to such defaults was $ ~~177~~ **325** million as of December 31, ~~2022~~ **2023** . While the lenders under our non- recourse financings generally do not have direct recourse to the Parent Company, such defaults under non- recourse financings can: • reduce the Parent Company' s receipt of subsidiary dividends, fees, interest payments, loans and other sources of cash because a subsidiary will typically be prohibited from distributing cash to the Parent Company during the pendency of any default; • trigger The AES Corporation' s obligation to make payments under any financial guarantee, letter of credit or other credit support provided to or on behalf of such subsidiary; • trigger defaults in the Parent Company' s outstanding debt. For example, The AES Corporation' s revolving credit facility and outstanding senior notes include events of default for certain bankruptcy related events involving material subsidiaries and relating to accelerations of outstanding material debt of material subsidiaries or any subsidiaries that in the aggregate constitute a material subsidiary; or • result in foreclosure on the assets that are pledged under the non- recourse financings, resulting in write- downs of assets and eliminating any and all potential future benefits derived from those assets. None of the projects that are in default are owned by subsidiaries that, individually or in the aggregate, meet the applicable standard of materiality in The AES Corporation' s revolving credit facility or other debt agreements to trigger an event of default or permit acceleration under such indebtedness. However, as a result of future mix of **71 | 2023 Annual Report** distributions, write- down of assets, dispositions and other changes to our financial position and results of operations, one or more of these subsidiaries, individually or in the aggregate, could fall within the applicable standard of materiality and thereby upon an acceleration of such subsidiary' s debt, trigger an event of default and possible acceleration of Parent Company indebtedness. The AES Corporation has significant cash requirements and limited sources of liquidity. The AES Corporation requires cash primarily to fund: principal repayments of debt, interest, dividends on our common stock, acquisitions, construction and other project commitments, other equity commitments (including business development investments); equity repurchases; taxes and Parent Company overhead costs. Our principal sources of liquidity are: dividends and other distributions from our subsidiaries, proceeds from financings at the Parent Company, and proceeds from asset sales. See Item 7. — Management' s Discussion and Analysis — Capital Resources and Liquidity. We believe that these sources will be adequate to meet our obligations for the foreseeable future, based on a number of material assumptions about access the capital or commercial lending markets, the operating and financial performance of our subsidiaries, exchange rates, our ability to sell assets, and the ability of our subsidiaries to pay dividends and other distributions; however, there can be no assurance that these sources will be available when needed or that our actual cash requirements will not be greater than expected. In addition, our cash flow may not be sufficient to repay our debt obligations at maturity and we may have to refinance such ~~75 | 2022 Annual Report~~ obligations. There can be no assurance that we will be successful in obtaining such refinancing on acceptable terms. Our ability to grow our business depends on our ability to raise capital on favorable terms. We rely on the capital markets as a source of liquidity for capital requirements not satisfied by operating cash flows. Our ability to arrange for financing on either a recourse or non- recourse basis and the costs of such capital are dependent on numerous factors, some of which are beyond our control, including: general economic and capital market conditions; the availability of bank credit; the availability of tax equity ~~partners~~ **investors** ; the financial condition, performance and prospects of AES as well as our competitors; and changes in tax and securities laws. Should access to capital not be available to us, we may have to sell assets or cease further investments, including the expansion or improvement of existing facilities, any of which would affect our future growth. A downgrade in the credit ratings of The AES Corporation or its subsidiaries could adversely affect our access to the capital markets, interest expense, liquidity or cash flow. If any of the credit ratings of the The AES Corporation and its subsidiaries were to be downgraded, our ability to raise capital on favorable terms could be impaired and our borrowing costs could increase. Furthermore, counterparties may no longer be willing to accept general unsecured commitments by The AES Corporation to provide credit support. Accordingly, we may be required to provide some other form of assurance, such as a letter of credit and / or collateral, to backstop or replace any credit support by The AES Corporation, which reduces our available credit. There can be no assurance that counterparties will accept such guarantees or other assurances. The market price of our common stock may be volatile. The market price and trading volumes of our common stock could fluctuate substantially due to factors including general economic conditions, conditions in our industry and our markets, environmental and economic developments, and general credit and capital markets conditions, as well as developments specific to us, including risks described in this section, failing to meet our publicly announced guidance or key trends and other matters described in Item 7. — Management' s Discussion and Analysis of Financial Condition and Results of Operations.