

## The Carbon Principles

### The Intent

We the undersigned financial institutions have come together to advance a set of principles for meeting energy needs in the United States (US) that balance cost, reliability and greenhouse gas (GHG) concerns.<sup>1</sup> The principles focus on a portfolio approach that includes efficiency, renewable and low carbon power sources, as well as centralized generation sources in light of concerns regarding the impact of GHG emissions while recognizing the need to provide reliable power at a reasonable cost to consumers. The Carbon Principles ("the Principles") represent the first time that financial institutions, advised by their clients and environmental advocacy groups, have jointly committed to advance a consistent approach to the issue of climate change in the US electric power industry.

We advance these Principles to create an industry best practice for the evaluation of options to meet the electric power needs of the US in an environmentally responsible and cost effective manner. When evaluating the financing of new fossil fuel generation we will be guided by the Principles and employ the accompanying Enhanced Environmental Diligence Process (the "Enhanced Diligence Process") to assess project economics and financing parameters related to the uncertainties around current climate change policy in the US. The Enhanced Diligence Process will evaluate the ability of the proposed financing to meet financial requirements under a range of potential GHG emissions assumptions and parameters. These assumptions will include policies regarding CO<sub>2</sub> emission controls and potential future CO<sub>2</sub> emissions costs as well as the costs and feasibility of mitigating technologies or other mechanisms. Due to the uncertainties around many of these factors, the Enhanced Diligence Process will encourage consideration of assumptions that err on the side of caution until more clarity on these issues is available to developers, lenders and investors. Financial institutions that adopt the Principles will implement them with the accompanying Enhanced Diligence Process, while consulting with environmental groups and energy companies.

### The Carbon Principles

*Energy efficiency.* An effective way to limit CO<sub>2</sub> emissions is to not produce them. We will encourage clients to invest in cost-effective demand reduction, taking into consideration the potential value of avoided CO<sub>2</sub> emissions. We will also encourage regulatory and legislative changes that increase efficiency in electricity consumption including the removal of barriers to investment in cost-effective demand reduction. We will consider demand reduction caused by increased energy efficiency (or other means) as part of the Enhanced Diligence Process and assess its impact on proposed financings of new fossil fuel generation.

*Renewable and low carbon energy technologies.* Renewable energy and low carbon distributed energy technologies hold considerable promise for meeting the electricity needs of the US while also leveraging American technology and creating jobs. We will encourage clients to invest in cost-effective renewables, fuel cells and other low carbon technologies, taking into consideration the potential value of avoided CO<sub>2</sub> emissions.

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<sup>1</sup> We consider all greenhouse gases but refer to CO<sub>2</sub> which is the most significant.

We will also support legislative and regulatory changes that remove barriers to, and promote such investments (including related investments in infrastructure and equipment needed to support the connection of renewable sources to the system). We will consider production increases from renewable and low carbon generation as part of the Enhanced Diligence Process and assess their impact on proposed financings of new fossil fuel generation.

*Conventional or Advanced generation.* In addition to cost effective energy efficiency, renewables and low carbon generation, we believe investments in other generating technologies likely will be needed to supply reliable electric power to the US market. This may include power from natural gas, coal and nuclear<sup>2</sup> technologies. Due to evolving climate policy, investing in CO<sub>2</sub>-emitting fossil fuel generation entails uncertain financial, regulatory and environmental liability risks. It is the purpose of the Enhanced Diligence Process to assess and reflect these risks in the financing considerations for fossil fuel generation. We will encourage regulatory and legislative changes that facilitate carbon mitigation technologies such as carbon capture and storage (CCS) to further reduce CO<sub>2</sub> emissions from the electric sector.

New fossil fuel generation constructed with conventional technology, if not accompanied by mitigation measures, will increase the emission of CO<sub>2</sub> into the atmosphere at a time when federal and state level emissions controls seem likely and, in some regions of the country, are already mandated. An important aspect of the Enhanced Diligence Process will be to evaluate the mitigation strategy and plan of the developer to address the risks posed by the increased CO<sub>2</sub> emissions from new sources when future emissions controls are uncertain. For projects proposed in jurisdictions that already have controls on emissions in place, the developer will need to show how the new generation will be consistent with the existing rules and potential changes going forward. However, in the absence of regional or federal regulations, the development plan will need to account for the added risks due to the uncertainties around future emissions limits.

### **The Commitments**

Adopters commit to:

- ▶ Encourage clients to pursue cost-effective energy efficiency, renewable energy and other low carbon alternatives to conventional generation, taking into consideration the potential value of avoided CO<sub>2</sub> emissions.
- ▶ Ascertain and evaluate the financial and operational risk to fossil fuel generation financings posed by the prospect of domestic CO<sub>2</sub> emissions controls through the application of the Enhanced Diligence Process. Use the results of this diligence as a contribution to the determination whether a transaction is eligible for financing and under what terms.
- ▶ Educate clients, regulators, and other industry participants regarding the additional diligence required for fossil fuel generation financings, and encourage regulatory and legislative changes consistent with the Principles.

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<sup>2</sup> It is recognized that nuclear plants carry a host of risks that financial institutions must consider, but which are outside the scope of these principles.

**We Adopt the above Principles and Commitments**

Citi

JP Morgan Chase

Morgan Stanley

## **The Carbon Principles Fossil Fuel Generation Financing Enhanced Environmental Diligence Process**

### **Introduction**

The Carbon Principles (the "Principles") lay out a portfolio approach to meeting US domestic electricity demand through efficiency, renewables, low carbon distributed power, and conventional and advanced generation in light of concerns about the impact of greenhouse gas (GHG) emissions, specifically carbon dioxide (hereafter referred to as CO<sub>2</sub>), and climate change. The absence of comprehensive federal action on climate change creates unknown financial risks for those building and financing new fossil fuel generation resources. The Financial Institutions that have signed the Principles recognize that federal CO<sub>2</sub> control legislation is being considered and is likely to be adopted during the service life of many new power plants. It is prudent to take concrete actions today that help developers, investors and financiers to identify, analyze, reduce and mitigate climate risks.

The Financial Institutions that have subscribed to the Principles will examine financings involving potential new fossil fuel generation through the Enhanced Environmental Diligence Process (the "Enhanced Diligence Process") outlined herein to identify potential risks posed by the recognized cost of CO<sub>2</sub> emissions, and seek to address those risks in the financing. Consistent with the need for a portfolio approach to meet energy needs including energy efficiency and renewable energy, the Enhanced Diligence Process examines the options a power developer has considered in its planning to meet future demand with lower CO<sub>2</sub> emissions.

### **The Purpose of Due Diligence**

Due diligence describes the reasonable investigation of a potential financial transaction. It is the process by which a financial institution assures itself that the transaction is consistent with the financial institution's standards of care. The results of the investigation are taken into consideration to determine whether the transaction is financeable, and under what set of terms.

Examination of environmental issues as they pertain to electric power finance is not new to adopters of the Principles. This document, however, formalizes a rigorous common discipline of inquiry into the CO<sub>2</sub> implications of electric power finance. It does not establish specific performance criteria that companies or their projects must meet nor does it lay out specific types of transactions that the Financial Institutions will avoid. Instead, it establishes the process by which the signatory Financial Institutions will investigate and analyze the risks associated with CO<sub>2</sub> emissions in financing the electric power industry and integrate that analysis into their lending and underwriting decisions.

Given that conventional and advanced generation will remain important for meeting demand beyond what cost-effective efficiency and renewable sources can provide, the Principles and the Enhanced Diligence Process recognize and examine the potential for new technologies to reduce net CO<sub>2</sub> emissions. The Enhanced Diligence Process is intended to provide guidelines that apply to many of the situations encountered in a fossil fuel generation financing transaction. However, certain transactions will warrant additional consideration and a varying standard of diligence that are each respectful of the specific circumstances of that transaction, including different regulatory regimes present in the US.

## Emerging Practice

Performance expectations of power generators and their financiers are changing rapidly, driven by greater understanding of climate impacts, carbon regulation being enacted at the state level, and federal climate policy deliberations. The Financial Institutions that subscribe to the Principles recognize that a set of practices is emerging in power project finance targeted at quantifying, reducing, and mitigating climate change-related risks. Some emerging practices include:

- When analyzing the financial viability of a project in the face of an uncertain climate policy environment, use of a wide range of assumptions about timing, stringency, and structure of regulation, and the ability of the project owner to pass through or recover compliance costs. In the absence of clear policy on the regulation of CO<sub>2</sub>, financial institutions and clients are starting to use conservative base assumptions, including a mandatory declining cap with full auctioning of allowances.
- Making a commitment at the corporate or project level to reduce net greenhouse gas emissions within specific timetables or for new capacity, making a commitment not to increase net emissions;
- Systematically implementing energy efficiency measures or programs and developing or acquiring low-greenhouse gas emitting generation that is as cost-effective as new fossil generation, taking into consideration the potential value of avoided CO<sub>2</sub> emissions.

These practices are not requirements for financing any particular project, but are useful benchmarks against which the degree of risk will be measured. Very few companies have fully adopted all of these elements, but the rising expectations on the industry from the public and from many policy makers suggest that adoption of these elements may reduce regulatory, financial, and environmental risk.

Generally, financial institutions are looking for evidence that the client's management recognizes climate change related risks and is responding effectively to those risks appropriate to their specific business circumstances. While the CO<sub>2</sub> emission challenges and potential solutions facing electric generators vary by company and region, we believe that developers of and investors in new fossil-fuel generation face less risk from future greenhouse gas regulation and market preferences of customers if the developers are proactive in quantifying, reducing, and mitigating risk.

Finally, the Financial Institutions that subscribe to the Principles recognize that, while currently in its very early stages of development, geological storage could serve as a key method for mitigating CO<sub>2</sub> emissions from fossil fuel generation. Thus, the Enhanced Diligence Process will evaluate the client's assessment of CO<sub>2</sub> capture, transport and storage options and view positively plans to preserve physical and/or financial carbon capture and sequestration optionality.

## Scope

The Enhanced Diligence Process applies to financings for an investor owned entity, public or private, that has announced a plan to construct a fossil fuel generation plant in

the US of over 200 MW for new coal-fired capacity or over 200 MW for expansion of capacity.<sup>1 2</sup>

The Financial Institution will apply the Enhanced Diligence Process to the Client (a) when leading a financing that is a committed bank loan or similar corporate facility<sup>3</sup> and the Client represents that it has a Qualifying Fossil Fuel Generation Plant<sup>4</sup> under construction or will begin construction within the next six month or (b) when leading a financing that has a known use of proceeds that includes the construction of a Qualifying Fossil Fuel Generation Plant. Underwriting transactions that simply refinance existing debt, letter of credit facilities, transactions involving derivatives or commodities, or other advisory transactions, are not included and will not require application of the Enhanced Diligence Process. Similarly, amendments to the terms, conditions, or tenor of existing corporate facilities will not require application of this Enhanced Diligence Process. The Enhanced Diligence Process will be a component of a broader examination of risk that Financial Institutions perform in advance of financing transactions. Such broader diligence undertakings customarily include an evaluation of non-CO<sub>2</sub> environmental risks—such as SO<sub>2</sub>, NO<sub>x</sub>, mercury, water consumption, water quality, waste minimization, and fuel sourcing plans<sup>5</sup>—that are not part of the Enhanced Diligence Process. Clients may use data provided as part of a regulatory review process to satisfy some or all of the issues and analyses covered by the Enhanced Diligence Process depending on how fully and fairly that regulatory review addressed each of the issues contained herein.

The signatories believe this process to be a “best practice” for public power entities, including, municipally-owned utilities, joint action agencies, state public power utilities and rural electric cooperatives, given that many if not all the same climate-related risks pertain to generation projects financed by these entities. Therefore they will encourage these entities to undergo the full review including evaluating the financial sensitivity of plants proposed by such clients to the full costs of mitigating their CO<sub>2</sub> emissions. Within six months of adopting the Principles, the Financial Institutions will work with these entities and environmental stakeholders to determine the appropriate enhanced diligence process for public power investments.

The Enhanced Diligence Process does not apply to nuclear power plants. Nuclear generation has its own unique set of risks including proliferation concerns, spent-fuel costs, spent fuel storage, insurance subsidies, and safety concerns. A discussion of such risks is outside the scope of this document; however, those risks are examined by Financial Institutions as part of nuclear financing transactions.

The Enhanced Diligence Process will be implemented by a Financial Institution within six months of adopting the Principles.

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<sup>1</sup> It is expected that this threshold amount will not be used to exclude a 200 MW coal-fired plant with multiple investors. In such cases, the Diligence Process will be undertaken once for the largest Client that is participating in the Fossil Fuel Generation Plant.

<sup>2</sup> MW refers to the estimated summer operating capacity of the Fossil Fuel Generation Plant.

<sup>3</sup> Applies to bank market term loans, revolving lines of credit, and bonds.

<sup>4</sup> A “Qualifying Fossil Fuel Generation Plant” is any new coal-fired power plant or expansion capacity over 200 MW.

<sup>5</sup> Specific risks incurred in the mining of coal or the production of natural gas are potentially material, including impacts of mountain top removal mining of coal, and need to be addressed, but are outside the scope of the Diligence Process.

If a Client is unwilling to work with the Signatory Financial Institution to provide the requested information for the Carbon Principles Enhanced Diligence Process, the Financial Institution will not proceed with the financing.

## **Enhanced Diligence Process**

### *Process item 1: Enhanced Environmental Diligence*

The Financial Institution will conduct the Enhanced Diligence Process as outlined in Exhibit I. Such process will be reflective of the specific CO<sub>2</sub> footprint of the project/transaction and the regulatory regime that the Client operates under. As appropriate, a third party consulting firm may perform the Enhanced Diligence Process and provide a written assessment to the Financial Institution.

### *Process item 2: Carbon Mitigation Plans*

For a Qualifying Fossil Fuel Generation Plant, the Financial Institution will review the Client's carbon mitigation plans, which include planning, research, experimentation, risk management and investment in carbon mitigation. The level of detail of the plans and the priority of the identified actions should be commensurate with the potential CO<sub>2</sub> impact of the Fossil Fuel Generation.

Carbon mitigation plans generally include an examination of the options available to the Client to reduce or offset some portion of the CO<sub>2</sub> emissions of the Qualifying Fossil Fuel Generation Plant and/or the planned, current and future actions by the Client to manage its overall CO<sub>2</sub> footprint. The carbon mitigation plans will help the Financial Institution better understand and assess the Client's strategy toward mitigating the risks posed by carbon limitations.

### *Process item 3: Independent Assessment*

The Financial Institution will ensure a review of the Client's risk from potential CO<sub>2</sub> costs is undertaken by their in-house experts or a third-party consultant. Additionally, in transactions where demand forecasts from the Client and other constituencies significantly differ, the Financial Institution may—at its discretion—require that a third-party consulting firm review the demand forecasts and render an independent demand forecast to the Financial Institution.

### *Process item 4: Consultation and Public Disclosure*

For a Qualifying Fossil Fuel Generation Plant, the Financial Institution will encourage the Client to consult with affected constituencies, as part of its project development process. Depending on its scope and detail, a regulatory review process, integrated resource planning, or similar formal approval of the Qualifying Fossil Fuel Generation Plant by an independent regulatory body fulfills this requirement

### *Process item 5: Reporting*

Each Financial Institution will periodically disclose the process by which they are implementing the Diligence Process. The purpose of the reporting is to demonstrate that:

- the Diligence Process is being fully implemented, and
- environmental impact of transactions has been evaluated and the results of the evaluation are an important consideration in the financing.

The reporting will include the number of completed transactions that were subject to the Diligence Process, and case studies of the types of effect the Diligence Process has on transactions. Recognizing that reporting is both important and sensitive, the Financial Institutions will maintain a dialogue with environmental stakeholders and clients focused on stakeholder needs and best practices.

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**DISCLAIMER:** The adopting Financial Institutions view the Enhanced Diligence Process as a financial industry benchmark for developing internal environmental policies, procedures, and practices. As with all internal policies, the Enhanced Diligence Process does not create any rights in, or liability to, any person, public or private. Each individual Financial Institution is adopting and implementing the Enhanced Diligence Process voluntarily and independently, without reliance on or recourse to the other participants in the Carbon Principles.

## **Exhibit I: Enhanced Environmental Diligence**

The Enhanced Environmental Diligence will reflect and respect the variety of regulatory regimes and planning processes already in place in the US, particularly in states that have a formalized planning process which includes climate policy, carbon prices and CCS cost considerations. Thus, the diligence questions herein are a suggested, but not necessarily exhaustive, list of key points that the Financial Institution will evaluate in cooperation with the Client.

For purposes of the Enhanced Diligence Process, Clients are grouped as operating in a "Regulated" regime or in a "Deregulated" regime. The Financial Institutions recognize that these groupings are inherently imperfect and that certain financings will merit an adjusted diligence process that evaluates key points from both groupings. The diligence may differ between a project financing and a corporate financing, depending on the size and environmental impact of the proposed plant(s), the nature and extent to which the cash flows from the Qualifying Fossil Fuel Generation Plant affect the overall risks and credit metrics of the corporate client and with respect to the timing of the transaction.

### **Section I(a): Regulated Utility**

- 1) Evaluation of efficiency alternatives considered. Discuss the Client's current and planned efficiency programs. Further, discuss the method used to determine cost effectiveness of energy efficiency options (e.g., total resource cost test, ratepayer impact measure). Also discuss any IRP and regulatory structure with regard to its role in influencing energy efficiency investments.  
*It is expected that in regimes with a formalized planning process that considers energy efficiency, this diligence element may be lessened depending on the degree of rigor regarding the consideration of energy efficiency in that the planning process.*
- 2) Evaluation of renewable alternatives considered. Discuss the renewable options that exist within the Client's load area. Discuss what has been considered and any reasons such options were not pursued, including the impact of a RPS in the jurisdiction.  
*It is expected that in regimes with a formalized planning process that considers renewables, this diligence element may be lessened depending on the degree of rigor regarding the consideration of renewable energy in that the planning process.*
- 3) Evaluation of financial impact and sensitivity to future CO<sub>2</sub> limits and costs.
  - a) Where there is no explicit policy in place, use conservative base assumptions in financial models of the proposed plant, including a mandatory declining cap with zero allocation of allowances or other similarly financially conservative regulatory scenarios. The analysis should reflect the range of regional, national, and international carbon price scenarios appropriate to the markets that the Fossil Fuel Plant will serve.
  - b) Where the project is being built to serve a regulated market and the Public Utility Commission has not made a determination of the treatment of future CO<sub>2</sub> costs, encourage Client to seek clarity on potential CO<sub>2</sub> compliance cost recovery.
  - c) Financial impact on the Qualifying Fossil Fuel Generation Plant including estimated capital and operating costs of construction with carbon capture and storage (CCS) or retrofit, evaluated with and without CO<sub>2</sub> costs.
- 4) Evaluation of Qualifying Fossil Fuel Generation Plant technology and siting.  
Discuss:
  - a) Reasons for proposed Fossil Fuel generation.

- b) Justification for the given type and specific design of the Fossil Fuel Generation taking into consideration criteria including: air pollutants, water, waste, efficiency, and reliability, and with reference to best available technology.
  - c) Carbon capture capability of the technology, including economic evaluation of carbon capture installation or retrofit, addressing:
    - i) The steps and estimated costs of installation or retrofit.
    - ii) Source of estimated costs of retrofit, recognizing that third-party vetting or a RFP process provides higher certainty to estimates.
    - iii) Sizing of the equipment (e.g., boiler, steam turbine, compressors) to allow future CO<sub>2</sub> capture or modifications needed to allow for CO<sub>2</sub> capture.
    - iv) Spacing and logistical considerations.
    - v) The estimated timeline for installation or retrofit.
  - d) Geologic investigations performed to assess potential for CO<sub>2</sub> storage including:
    - i) Plant siting and distance to suitable CO<sub>2</sub> sinks.
    - ii) Potential storage sites that could meet CO<sub>2</sub> storage needs.
    - iii) Results of investigations and characterizations of a potential storage site to establish whether reservoirs with adequate capacity, injectivity, seal effectiveness are available to accommodate the CO<sub>2</sub> throughout the lifetime of the project at an acceptable cost.
    - iv) State regulatory framework for obtaining permits for storage and overall liability regime.
  - e) Pipeline infrastructure and costs needed for CO<sub>2</sub> transport to appropriate potential storage locations. Discuss steps necessary to obtain rights-of-way and estimated costs and feasibility of obtaining those rights.
- 5) Evaluation of any commitment to avoid any increase in or reduce CO<sub>2</sub> emissions across the Client's portfolio (recognizing that the Client may not have an existing portfolio). While the Enhanced Diligence Process does not require Clients to make such commitments, the Financial Institutions acknowledge that actions that avoid CO<sub>2</sub> emissions generally reduce climate change-related risk to developers and financiers and when CO<sub>2</sub> emissions are not avoidable, actions that mitigate the impact of those emissions help to reduce risk to developers and financiers. Discuss:
- a) Form of the commitment (e.g., press release, corporate target, board resolution, etc.) and any planned public communication of the commitment.
  - b) If existing generating units are expected to be retired or mothballed, discuss:
    - i) The unit(s) that will be taken offline and timing of that action.
    - ii) Strength and form of the commitment to keep unit(s) offline.
    - iii) The expected useful life of the Qualifying Fossil Fuel Generation Plant as compared to that of the unit(s) that will be taken offline.
  - c) If offsets or other actions are expected to mitigate carbon risk, discuss:
    - i) Whether the offsets are real, verifiable, enforceable and environmentally additional.
    - ii) Whether the offsets meet any regulatory performance standards (such as those established under the Regional Greenhouse Gas Initiative). If not, what is the basis for concluding that the offsets will mitigate carbon risk under a future regulatory program?
    - iii) How much of the Client's generation (as a % of total emissions and % of contemplated Fossil Fuel Plant emissions) will be offset.
    - iv) Plans for obtaining those offsets including discussion of potential for supply shortages to the extent many parties seek to use a limited pool of offsets.
    - v) Assumptions on cost of such offsets and financial impact of an increased cost from lower-than-expected offset supply.

- d) Evaluation of mitigation plan. Discuss the Client's strategy to mitigate its CO<sub>2</sub> exposure and emissions related to the proposed power plant through various mechanisms.

**Section I(b): Merchants and IPPs**

- 1) Evaluation of potential for energy efficiency. Discuss:
  - a) Potential impact of regional energy efficiency programs on the capacity factor and financial performance of the Qualifying Fossil Fuel Generation Plant.
  - b) If the contemplated Qualifying Fossil Fuel Generation Plant has a significant (greater than 50% of available capacity or energy) power purchase agreement ("PPA"), discuss whether the purchaser is or could become subject to an IRP or an efficiency procurement requirement.
- 2) Evaluation of potential for renewables. Discuss:
  - a) Potential impact of planned regional renewable development on the capacity factor and financial performance of the Qualifying Fossil Fuel Generation Plant.
  - b) If there is a Renewable Portfolio Standard ("RPS") in the jurisdiction, discuss:
    - i) Details of the RPS including the percentage of renewables required and phase-in timing.
    - ii) Potential impact of additional renewable development to meet stated RPS requirements on the capacity factor and financial performance of the Qualifying Fossil Fuel Generation Plant.
- 3) Same as diligence topic 3 in Section I(a), except that, where a Qualifying Fossil Fuel Generation Plant has a significant (greater than 50% of available capacity or energy) power purchase agreement ("PPA"), discuss whether the PPA accounts for future CO<sub>2</sub> compliance costs, or allows for a reopener to adjust financial terms of the agreement when such costs become known.
- 4) Same as diligence topic 4 in Section I(a)
- 5) Evaluation of carbon mitigation plan. Discuss:
  - a) Client's strategy and ability to mitigate its exposure to potential CO<sub>2</sub> costs.  
Discussion of mitigation mechanisms including, but not limited to:
    - i) CO<sub>2</sub> credit positions/purchases/offsets,
    - ii) Closure of other fossil fuel facilities,
    - iii) Commitments to adopt technologies to reduce CO<sub>2</sub> emissions,
    - iv) Anticipation of future CO<sub>2</sub> costs and/or reopener provision in any significant PPA,
    - v) Other mitigating factors, as appropriate.
  - b) Client's corporate CO<sub>2</sub> management plan, if applicable, across its generation fleet, including plants under construction.
  - c) Client's progress towards meeting its corporate CO<sub>2</sub> management plans, if applicable.

4 February 2008

## **Leading Wall Street Banks Establish The Carbon Principles**

### **Guidelines to strengthen environmental and economic risk management in the financing and construction of electricity generation**

NEW YORK – Three of the world's leading financial institutions today announced the formation of The Carbon Principles, climate change guidelines for advisors and lenders to power companies in the United States. These Principles are the result of a nine-month intensive effort to create an approach to evaluating and addressing carbon risks in the financing of electric power projects. The need for these Principles is driven by the risks faced by the power industry as utilities, independent producers, regulators, lenders and investors deal with the uncertainties around regional and national climate change policy.

The Principles were developed in partnership by Citi, JPMorgan Chase and Morgan Stanley, and in consultation with leading power companies American Electric Power, CMS Energy, DTE Energy, NRG Energy, PSEG, Sempra and Southern Company. Environmental Defense and the Natural Resources Defense Council, environmental non-governmental organizations, also advised on the creation of the Principles.

This effort is the first time a group of banks has come together and consulted with power companies and environmental groups to develop a process for understanding carbon risk around power sector investments needed to meet future economic growth and the needs of consumers for reliable and affordable energy. The consortium has developed an Enhanced Diligence framework to help lenders better understand and evaluate the potential carbon risks associated with coal plant investments.

The Principles recognize the benefits of a portfolio approach to meeting the power needs of consumers, without prescribing how power companies should act to meet these needs. However, if high carbon dioxide-emitting technologies are selected by power companies, the signatory banks have agreed to follow the Enhanced Diligence process and factor these risks and potential mitigants into the final financing decision.

"There was full and frank dialogue around the table," said Matt Arnold, director of Sustainable Finance, which helped coordinate the development of the Principles and Enhanced Diligence process. "There was a remarkable amount of debate and exchange of information and views among the banks, power companies and environmental organizations. The dialogue resulted in a rigorous analysis of the carbon risks in power investments, and sets the stage for further discussion."

Citi, JPMorgan Chase and Morgan Stanley have pledged their commitment to the Principles to use as a framework when talking about these issues with clients. This effort creates a consistent approach among major lenders and advisors in evaluating climate change risks and opportunities in the US electric power industry. The Principles and associated Enhanced Diligence represent a first step in a process aimed at providing banks and their power industry clients with a consistent roadmap for reducing the regulatory and financial risks associated with greenhouse gas emissions.

The Principles are:

**Energy efficiency.** An effective way to limit CO<sub>2</sub> emissions is to not produce them. The signatory financial institutions will encourage clients to invest in cost-effective demand reduction, taking into consideration the value of avoided CO<sub>2</sub> emissions. We will also encourage regulatory and legislative changes that increase efficiency in electricity consumption including the removal of barriers to investment in cost-effective demand reduction. The institutions will consider demand reduction caused by increased energy efficiency (or other means) as part of the Enhanced Diligence Process and assess its impact on proposed financings of certain new fossil fuel generation.

**Renewable and low carbon distributed energy technologies.** Renewable energy and low carbon distributed energy technologies hold considerable promise for meeting the electricity needs of the US while also leveraging American technology and creating jobs. We will encourage clients to invest in cost-effective renewables and distributed technologies, taking into consideration the value of avoided CO<sub>2</sub> emissions. We will also encourage legislative and regulatory changes that remove barriers to, and promote such investments (including related investments in infrastructure and equipment needed to support the connection of renewable sources to the system). We will consider production increases from renewable and low carbon generation as part of the Enhanced Diligence process and assess their impact on proposed financings of certain new fossil fuel generation.

**Conventional and advanced generation.** In addition to cost effective energy efficiency, renewables and low carbon distributed generation, investments in conventional or advanced generating facilities will be needed to supply reliable electric power to the US market. This may include power from natural gas, coal and nuclear technologies. Due to evolving climate policy, investing in CO<sub>2</sub>-emitting fossil fuel generation entails uncertain financial, regulatory and certain environmental liability risks. It is the purpose of the Enhanced Diligence process to assess and reflect these risks in the financing considerations for certain fossil fuel generation. We will encourage regulatory and legislative changes that facilitate carbon capture and storage (CCS) to further reduce CO<sub>2</sub> emissions from the electric sector.

"Leading utilities and financial institutions understand that the rules of the road have changed for coal," said Mark Brownstein, managing director of business partnerships for Environmental Defense, one of the NGOs that advised with the banks in creating the Principles. "These principles are a first step in facilitating an honest assessment of electric generation options in light of the obvious and pressing need to substantially reduce national greenhouse gas pollution."

Dale Bryk, senior attorney at the Natural Resources Defense Council added, "Expectations are rising fast for this industry. Global warming is changing the competitive landscape. Clean power is the name of the game today. Conventional coal facilities are already facing intensive scrutiny. We think the serious money is increasingly going to be on clean, efficient solutions."

### **Power Industry Comments on The Carbon Principles**

#### **American Electric Power (AEP), Columbus, OH:**

"A rational set of carbon principles to help guide energy investment strategy is vital to our nation's energy and economic future," said Michael G. Morris, Chairman, President and Chief Executive Officer of American Electric Power. "Recognizing that energy efficiency, renewables, cleaner fossil technologies and other diverse solutions all have significant roles in addressing climate challenges while maintaining economic and energy security establishes a framework for making the best decisions regarding our nation's energy future."

#### **CMS Energy, Jackson, MI**

"The electric companies that serve America's families and businesses every day understand the need for a balanced approach to meet our country's energy needs. At CMS Energy, our objective is to provide reliable and affordable power to our customers through a prudent, environmentally responsible mix of conventional and advanced technologies that includes renewable energy and to work with customers to help them use energy efficiently. By adopting these principles, Wall Street is making an important and creative contribution to the ongoing effort to address climate change and a contribution that will be welcomed by those in the utility sector with similar concerns about the environment."

#### **DTE Energy, Detroit, MI:**

"DTE Energy is proud of its history of environmental stewardship and thus we applaud the Carbon Principles approach by leading banks recognizing that a broad range of energy solutions must be considered to address the climate change issue," said Anthony F. Earley Jr., Chairman and Chief Executive Officer of DTE Energy.

#### **NRG Energy, Princeton, NJ:**

"To move the needle on global warming, clean energy technologies need to be developed, demonstrated and deployed as quickly as possible," said David Crane, President and Chief Executive Officer of NRG Energy Inc. "Given the capital intensive nature of this challenge, we welcome these carbon principles as a sign that America's leading financial institutions are ready to support a massive increase of investment in clean energy solutions. With the support of both Wall Street and public policymakers in Washington, the American power industry can lead the way in achieving the dramatic GHG reductions that are critical to the health of both our economy and our planet."

#### **Public Service Enterprise Group (PSEG), Newark, NJ:**

"The Carbon Principles encourage all stakeholders to recognize that energy efficiency, renewables and new low-carbon power sources are all indispensable to meeting the nation's future energy needs while addressing climate change as one of the foremost policy and environmental issues of our time," said Ralph Izzo, Chairman, President and Chief Executive Officer of PSEG. "PSEG is actively pursuing this overall goal, while recognizing that our efforts must result in a reasonable cost to consumers. We hope that the Principles will contribute to the national consensus that must be reached to deal effectively with these critical issues."

#### **Sempra Energy, San Diego, CA:**

"With its mix of energy efficiency, renewable energy and clean conventional generation, the Carbon Principles echo our view that to meet future US energy needs, a balanced portfolio approach must use energy efficiency, renewable energy, and natural gas."

#### **Southern Company, Atlanta, GA:**

Southern Company, along with our regulators and other stakeholders, has and will continue to undertake extensive evaluation of all generation resources including nuclear, coal, natural gas, renewables and energy efficiency, to maintain the balanced portfolio necessary to reliably meet our customers' growing electricity needs. We regard bank due diligence as a normal part of our

business and we applaud the banks for seeking input from the electricity industry as they developed the Carbon Principles.

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Citi, the leading global financial services company, has some 200 million customer accounts and does business in more than 100 countries, providing consumers, corporations, governments and institutions with a broad range of financial products and services, including consumer banking and credit, corporate and investment banking, securities brokerage, and wealth management. Citi's major brand names include Citibank, CitiFinancial, Primerica, Smith Barney, Banamex, and Nikko. Additional information may be found at [www.citigroup.com](http://www.citigroup.com) or [www.citi.com](http://www.citi.com).

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**About Sustainable Finance**

Sustainable Finance Limited, established in 2003, provides a range of products and services to assist financial institutions in minimizing the risks and maximizing the rapidly evolving opportunities associated with sustainability. Sustainable Finance consults with leading global financial institutions in debt and equity markets, and in developed and emerging economies. It services four areas: Strategy and Policy Development, Capacity-Building and Training, Management Systems, Transaction Review and Value Creation.

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