

## **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.