



SUPPORTING YOU IN THE ENERGY **TRANSITION**

Our expertise, our solutions

Our commitments since 1997

- **1997** Financing of our first wind turbines.
- **2003** Signature of the UN Global Compact by Crédit Agricole S.A.
Crédit Agricole CIB becomes a founding member of the Equator Principles.
- **2008** Co-author of the global Climate Principles for the financial sector.
- **2011** First calculations to quantify the greenhouse gas emissions generated by a bank's loans and investments – in partnership with Paris Dauphine University and Ecole Polytechnique.
Publishes its first CSR sector policies.
- **2014** Co-author of the Green Bond Principles aimed at improving transparency in the allocation of funds and assessing the environmental impacts of the projects financed.
- **2015** Commitment, during the COP21, to structure EUR 60 billion in green financings between the end of 2015 and the end of 2018.
Commitment to cease the financing of new coal mine projects all over the world and of coal-fired power plants in high revenue countries.
First commercial bank to support the Mainstreaming Climate Action initiative to take the climate into account in financial institutions' activities.
- **2016** Commitment to cease the financing of new coal-fired power plants whatever the country involved.
- **2017** Transition risk index designed and scenarios developed to assess the significance of climate risks. Climate aspects considered in the CSR scoring of corporate clients.
Commitment to cease the financing of low performing oils and those that are most dangerous for the environment.
Commitment to structure EUR 40 billion in additional financings by 2020, which puts the total commitment at EUR 100 billion.
- **2018** Climate-related requirements introduced in the CSR scoring of our clients.
Member of Finance for Tomorrow, an initiative launched by the Paris financial community to promote sustainable finance in France and abroad.



EDITORIAL

PHILIPPE BRASSAC,

CHIEF EXECUTIVE OFFICER OF CRÉDIT AGRICOLE S.A.
AND CHAIRMAN OF CRÉDIT AGRICOLE CIB

Climate change is one of the major challenges of the century and requires that we adapt our individual and collective behaviours.

As bankers, our mission is to assist our clients in this transformation by providing suitable and innovative solutions over the long-term. The decisions and commitments that we make today could have a decisive impact on the future choices of economic players.

To help you carry out your projects, Crédit Agricole provides you with all its expertise in green finance and the full strength of the Group.

With many years of experience, Crédit Agricole CIB has become a global leader in the financing of large environmental infrastructure throughout the world and in issuing green bonds. This expertise also allows

us to evaluate risks very precisely and to add climate criteria to the environmental, social and ethical criteria already used in our procedures. Our pioneering position puts us at the centre of international reflection on the climate, and enables us to launch standardisation initiatives and develop best practices.

“Our pioneering position puts us at the centre of international reflection on the climate.”

Today, with this brochure, we reaffirm our ambition to be your long-term banking partner for your energy transition projects. A partner that is both realistic and demanding concerning the climate.

OUR AMBITION

We want to be your financial partner of reference and assist you in developing climate-friendly projects by our financing and investment solutions.

Our teams can assist you as they have a very good knowledge and an extensive track record in advising and structuring transactions in the economic sectors in which the energy transition is a key challenge, in particular the energy, infrastructure, rail transport and real estate sectors.

A large share of capital expenditure has to occur in developing economies where development financial institutions have a key role to play but will not always be able to meet the magnitude of the needs. Crédit Agricole CIB has a key experience in working with and connecting important public and private players including through various partnerships and is willing to play a decisive role to help close the gap.

Thus, to finance your projects, our Group can mobilize very significant financial resources. We have extensive experience in structuring complex transactions and setting up partnerships with public or private players and have an intimate understanding of responsible investors. We know how to mobilize them to support your projects all over the world.

Supporting a carbon-free economy

Accelerating the energy transition	5
Consuming more efficiently	6
Controlling energy consumption	7

Our expertise to serve your projects

Our financing solutions	9
• Green loans: new solutions	9
• Project finance: reducing environmental impacts	10
• Issuing a green bond with advice from the world leader	11
• Green private placements for small and medium-sized enterprises	12
Our investment solutions	13
• Green notes: investing in our portfolio of projects	13
• Structuring your impact investments	13



SUPPORTING **A CARBON-FREE ECONOMY**

The energy transition implies an unprecedented effort towards the development of low greenhouse gas emissions solutions across all sectors and regions and the subsequent reallocation of tens of trillions of dollars of investment. The financial sector has an important role to play as stated in the Paris agreement. According to the International Energy Agency and calculations by the Bank of England, a 2-degree scenario requires a dramatic increase in cumulative investments in renewables and low-carbon energy supply, and a nearly threefold increase in investments in end-use efficiency, compared to investment levels in current policy scenarios. Crédit Agricole CIB is keen to help its clients tackle this challenge in all critical businesses whether they invest in renewables, energy storage and smart grids or efficient real estate, rail networks and smart cities.

Accelerating the energy transition

Today, the defining feature of the energy sector is the speed of its transformation, driven initially by policy and increasingly by the competitive cost of green technologies. In this world of change, we deploy our expertise and mobilize our resources to facilitate the energy transition and to support our clients with the investments and advice that will ensure success.

ENCOURAGE SUSTAINABLE BUSINESS MODELS

Our clients' traditional business models are impacted by energy transition in various ways, by policy changes which benefit renewable energy, by the intermittency of the energy coming from the sun or wind, and by the marginal production cost – often close to zero – of these technologies.

Obviously, Crédit Agricole CIB continues to work with its historic clients, Major Utilities and Independent Power Producers, as well as Institutional Investors looking for stable, reliable returns. It also supports Oil & Gas majors as they increasingly invest in the energy transition.

Today, our attention also turns to new players, such as “developers”, small and mid-cap companies that are often the first and most agile investors in renewable generation, grid management and storage. New markets are also flourishing in the wake of this technological revolution, for example as many large corporate clients negotiate direct contracts for cheap green power through corporate power purchase agreements.

PROVEN TECHNICAL EXPERTISE

Crédit Agricole CIB financed its first renewable energy project in 1997, an on-shore wind project in Spain. We have since acquired a recognized expertise across a wide spectrum of green energy technologies: thermo solar, solar PV, distributed generation, storage and off-shore wind... And we continue to invest and prepare for the future, for example in floating off-shore wind and off-grid rooftop photovoltaic systems.

“Today, renewable energy attracts more investment than thermal generation.”

We are working with our clients to support grid stability which has become a key consideration following the increasing proportion of intermittent renewable generating capacity. We regularly finance transmission lines and have already financed diverse stabilizing assets such as pumped hydro and gas fired peakers. We are developing financing solutions for centralized battery storage installations, flexible reciprocating engines and electric vehicle infrastructure.

Finally, we recognise and will adapt to the continuously changing dynamics of the energy sector. We anticipate the demise of coal, the disruptive effects of demand side response systems and distributed generation, and the non-negligible impact of electric vehicle deployment. We stand ready to support our clients and the environment in this transformative new world of energy.



OUR EXPERT'S OPINION

“The energy transition is already well underway; it is global, accelerating, and impacting every sector of the economy. This transition starts with power generation, but quickly spreads to transportation, manufacturing, real estate, oil & gas – in short – everything that requires energy will be touched by this transformation.

In this rapidly changing environment, Crédit Agricole CIB is well equipped to deliver the advice, ideas and strategic financing solutions required by our clients thanks to our experience in more than 60 countries, to our extensive technical knowledge backed by 20 years of experience financing renewable energy and to a global network of more than 150 dedicated energy experts.

Our commitment to the energy transition is clear: we will be a key facilitator of change, leverage our extensive sector expertise, and be the financing partner of choice for our clients as we all engage in this exciting transition.”

**DANIELLE BARON, GLOBAL HEAD
OF POWER AND UTILITIES**

Some of our valued partners

EDF, Enel, ERG, Falck Renewables, Jinko Power, Total, Hera, NextEra Energy

Consuming more efficiently

Massive investments are needed in end-use efficiency for a transition pathway consistent with keeping the increase in global temperature to well below 2°C. Transportation, real estate and energy consumption control are key sectors in this respect.

RAIL & URBAN TRANSPORT

Transport represents a quarter of Europe's greenhouse gas emissions, and is the main cause of air pollution in cities.

Favouring low carbon transport modes like rail or urban transport is therefore a must. According to Climate Bonds Standard, 61% of the green bonds issued in 2017 have been issued for low carbon transport projects.

Crédit Agricole CIB has a long standing and quite unique rail sector expertise with 95 transactions structured since 2003. Crédit Agricole CIB has particularly been at the forefront of green finance in the rail sector. For example, we have advised Ferrovie Dello Stato for the first European green issuance of an incumbent railway operator to finance rolling stocks, and Alpha Trains for the first green private placement of a rail leasing company.

Moreover in 2017, we were the mandated lead arranger of one of the main high speed rail line infrastructure projects connecting Paris to Bordeaux in 2 hours.

As regards light rail and urban transit, we structured the financing of many projects such as, over the last decade, Florence tramway, Milan Metro 4 and 5, Nottingham tramway, Melbourne Metro PPP and Sydney Light Rail.

Some of our valued partners

SNCF Réseau, Ferrovie dello Stato Italiane, RATP, MTR Corporation Ltd., Adif Alta Velocidad, Société du Grand Paris



Rail Finance House

OF THE YEAR 2011, 2012, 2014, 2015, 2016 & 2017

(Source: Global Transport Finance)

Rail is one of the most climate-friendly modes of transport

It contributes less than 2% of EU emissions despite having more than **8%** of market share.

Controlling energy consumption

REAL ESTATE SECTOR

Our clients in the real estate sector are committed to sustainable growth and to the reduction of their carbon emissions. In the OECD countries in which our experts are active, the construction or complete renovation of all kinds of buildings (offices, retail, residential, logistics, hotels...) requiring authorisations and certifications, meet the latest environmental standards (BBC, HEQ, Bream, Leed...).

In this sector, we play a major role in structuring and placing green bonds dedicated to the financing of very high energy performance buildings, and in some cases of passive solar energy buildings. With clients such as BerlinHyp, we also help define best market practices in terms of impact reporting.

We have played key roles in issuing green bonds: five inaugural issues on behalf of three French property companies, a US Real Estate Investment Trust and recently on behalf of a large pan-European logistics fund.

In 2018, Crédit Agricole CIB also set up loans indexed on environmental, social and governance (ESG) criteria for Unibail-Rodamco and Gecina. We were also Ivanhoe Cambridge's agent and one of the mandated arrangers for the first European mortgage loan certified by the Board of the Climate Bonds Standards, which was arranged to finance the Duo towers in Paris.

Some of our valued partners

Icade, Covivio, Prologis, Unibail-Rodamco

Gas and electricity smart meters are a new asset class which has emerged in the last few years as a result of the mandatory mass roll-out dictated by the 2009 EU Directive according to which 80% of consumers should be equipped with intelligent metering systems by 2020. The key aim of this roll-out is to enhance efficiency behaviour and more accurate billing by improving communication and awareness of the electricity usage to the consumers and energy suppliers providing real-time data.

By 2020, 80% of Europeans will be equipped with smart meters.

During the foundation stage, until 2017, less than 10 million smart meters have been installed with circa 40 million additional smart meters expected to be installed over the period 2018-20.

It is estimated that smart meters roll-out will save circa 14 million tonnes of CO₂ emissions to 2030.

With 3 transactions arranged since 2015, Crédit Agricole CIB is well positioned to be one of the main players in financing this new development.



OUR EXPERTISE **TO SERVE** **YOUR PROJECTS**

To carry out your projects and finance your environment-friendly activities, we develop sustainable financial instruments that also comply with the new transparency requirements for financial institutions and investors and with the gradual transformation of regulatory frameworks.

Our financing solutions

Green loans: new solutions

Green loans are credit instruments that are meant to finance or refinance part or all of a green project whether it is new or already exists. Green loans are based on four principles: funds are exclusively dedicated to a green project, the evaluation and selection process is rigorous, the management of funds is transparent and reports are transparent and accessible to all.

A GREEN LOAN FOR SKANSKA

In 2018, our teams assisted Skanska, a world leader in the building sector, with a multi-currency revolving credit facility dedicated to the financing of high-performance environmental buildings developed and built by Skanska. This loan enables the company to finance its green building projects in a flexible way and at an improved cost.

AN INNOVATIVE TRANSACTION FOR A MAJOR RETAIL GROUP

For a major French retail group, our teams structured a new Trade ENergy SErVICES (Tense) financing solution. A special purpose vehicle was set up to finance a stock of operational assets (supermarket refrigerators, light bulbs, air conditioners, cash registers...) whose energy consumption will be improved by a specialised provider during the financing. This solution reduces the group's energy bill and provides a deconsolidated financing of these operational assets.

A LOAN INDEXED ON ENVIRONMENTAL, SOCIAL AND GOVERNANCE (ESG) CRITERIA

This new form of green loan is a standard revolving credit facility where the margin is indexed on environmental, social and governance criteria, assessed either through internal KPIs or external ESG rating or a mix of both.

Some of our valued partners

sPower, Terra-Gen, A2A, Gecina



6th

BOOKRUNNER WORLDWIDE FOR GLOBAL GREEN LOANS

(Source: Bloomberg 3rd quarter 2018)

Resources for your projects

Crédit Agricole CIB innovates to free up financial resources

In 2017, we set up a USD 3 billion synthetic securitisation transaction for a portfolio of diversified structured financings (project and infrastructure finance, aircraft, ship and real estate finance) subscribed by the Mariner Investment Group, a US investment fund. Crédit Agricole CIB made a commitment to reallocate part of this freed-up capital to financings with a positive environmental impact, such as the development of renewable energies and water treatment.

Crédit Agricole CIB is your intermediary for the Green Climate Fund

The Green Climate Fund (GCF) was formally established during the COP16 in Cancún in 2010 within the UNFCCC framework, to support the efforts of developing countries to contain or reduce greenhouse gas emissions and adapt to the impacts of climate change. With commitments reaching USD 10.3 billion, the fund can invest by way of subsidies, loans, capital or guarantees to stimulate and unblock private financings.

Crédit Agricole CIB was the first French Bank to be accredited by the GCF. We can thereby mobilise its support in our clients' project finance transactions, thus improving the liquidity pool of these financings.

Project finance: reducing environmental impacts

Project finance provides financing for large facilities in the energy, transport infrastructure, waste and water treatment sectors, relying almost exclusively on the operating revenues generated by these facilities.

Crédit Agricole CIB is one of the leading players in this sector, and it is part of our strategy to finance the best environmental and social practices.

Support for the energy transition, for energy conservation and for renewable energy is therefore a priority for project finance activities.

In 2003, ten large international banks, among which Crédit Agricole CIB, agreed on a charter: the Equator Principles. By signing this charter, the banks, using social and environmental criteria, are committed to a constructive approach that optimises the projects financed.

In 2011, Crédit Agricole CIB strengthened its commitment in favour of the climate by publishing CSR sector policies. These policies detail the social and environmental criteria used in all our financing activities including structured finance. These policies can be found on our website and cover in particular energy, transport and real estate.

50% SHARE OF RENEWABLE ENERGY IN THE POWER GENERATION PROJECTS PORTFOLIO IN 2017

33.8 GW INSTALLED CAPACITY IN RENEWABLE ENERGY FINANCED (WIND AND SOLAR)



OUR EXPERT'S OPINION

“We were pioneers in financing renewable energy worldwide and in particular wind farms, both offshore and onshore. Renewable energy represents more than half of our power generation portfolio.”

JEAN-FRANÇOIS GRANDCHAMP DES RAUX, GLOBAL HEAD OF ENERGY AND INFRASTRUCTURE DIVISION



4th

WORLDWIDE FOR PROJECT FINANCE

(Source: Thomson Reuters, 3rd quarter 2018)

A few large projects we financed

EF Solare, Italy's largest portfolio of solar assets.

Alta Wind, the largest wind farm in the United States.

Formosa 1, the first offshore wind project developed in Taiwan.

Moreover, we financed the largest acquisition to date of a power renewable assets portfolio for **Equis Energy**.

Issuing a green bond with advice from the world leader

Green bonds allow issuers, companies, international organisations and local authorities to raise funds to finance projects or investments offering significant environmental benefits. They also meet the growing demand for responsible investments.

THE BENEFITS FOR THE ISSUER

For the issuer, the green bond is a standard bond, in addition to which a commitment is made to use the funds for green projects and to provide specific information on the environmental quality of these projects financed. The green bond is therefore a way for the issuer to assert its strategy in favour of the energy transition with its various stakeholders. It offers a real diversification of its investor base, in particular with responsible investors who seek to combine financial and environmental returns.

ENGAGING WITH INVESTORS

The allocation of funds to environmental projects must be detailed on the basis of specific eligibility criteria. Market practice, which is provided by the Green Bond Principles, relies on commitments concerning the use of funds and transparency, usually confirmed by an external agency. Within its green bonds framework, the issuer also makes a commitment to provide impact reports.

WORKING WITH US

For more than 10 years, Crédit Agricole CIB's Sustainable Banking team has been dedicated to the growth of the green bond market, in order to make it accessible to all. Whether you are an investor or an issuer, we provide you with the expertise of a world market leader.

Some of our valued partners

Export Development Canada, Toyota Motor Corporation, Nacional Financiera, BNDES, Paprec Holding, Republic of France, Barclays, Enel, Iberdrola, Belgian Debt Agency, Kommuninvest, KommuneKredit, NRW.BANK, KfW, Nordic Investment Bank, Municipality Finance Plc, ICBC, Sumitomo Mitsui Trust Bank, Korea Development Bank, Korea Water Resources Corporation, Westpac, DBS Group, MTR Corporation Limited, Axis Bank



1st

**OVERALL MOST IMPRESSIVE BANK
FOR GREEN/SRI CAPITAL MARKETS**

(Source: GlobalCapital SRI Awards 2018, 2017, 2016, 2015 & 2014)



OUR EXPERT'S OPINION

“The fight against global warming requires new financings that can be raised in the capital markets. Today, in the green bond market, we want to attract new responsible investors who are keen to diversify their investments. One of the main challenges of the green bond market is to be extremely clear in terms of the projects' eligibility and to improve transparency regarding the use of funds. Crédit Agricole CIB was a driving force in creating and developing the green bond market worldwide, in particular by signing the Green Bond Principles that promote the market's transparency and integrity.”

TANGUY CLAQUIN, GLOBAL HEAD OF SUSTAINABLE BANKING AT CRÉDIT AGRICOLE CIB AND MEMBER OF THE TECHNICAL EXPERT GROUP ON SUSTAINABLE FINANCE FOR THE EUROPEAN COMMISSION

Green private placements for small and medium-sized enterprises

As green finance continues to develop in capital markets, green financial products are progressively becoming available for small and medium-sized enterprises (SMEs).

Like most other financial instruments, institutional private placements such as Euro PP, Schuldschein and USPP can be structured according to the Green Bond Principles and contribute to the financing of the energy transition.

In Europe, the Euro PP market has proven to be an efficient product to finance SMEs that cannot yet access international bond markets. The green Euro PP market now also provides responsible investors with attractive opportunities to combine financial return and asset diversification in the “real economy” with a commitment to the environment.

QUADRAN'S FIRST GREEN EURO PP

With nearly 500 MW of installed capacity, Quadran is one of the major independent players in green energy production in France. To pursue its growth and reach its goal of 1,000 MW of installed capacity by 2020, the Quadran Group chose the private placement market to launch an inaugural transaction with the recognized Climate Bond Initiatives certification. The investors who subscribed to Quadran's Euro PP have the guarantee that the funds raised will be used to build new solar and wind projects.



OUR EXPERT'S OPINION

“An increasing number of investors, especially in Europe and Asia, are looking for responsible investment opportunities that meet specific environmental goals. In partnership with our clients, we identify projects that help with the energy transition and find the responsible investors who best match each type of project.”

BENJAMIN LAMBERG, GLOBAL HEAD OF MTNs & PRIVATE PLACEMENTS AND HEAD OF ASIA CREDIT

Green securitisation: a rapidly growing market

Securitisation is a financial technique by which portfolios of trade or financial receivables are isolated into a special purpose vehicle. The portfolio is then refinanced by the vehicle through the issuance of securities sold to investors.

We have supported several projects to finance portfolios of solar panels, in particular for SunPower, one of the main manufacturers and developers in this sector. The project is to finance, over a two-year period, the installation of approximately 15,000 solar panels on roofs of individual homes in the United States. Green securitisation is perfectly suited for this situation because of the large and diverse portfolio financed and their green characteristics.

Our teams also support the development of the green Asset Backed Securities (ABS) market which has been pioneered by Toyota. In particular, Crédit Agricole CIB acted as joint-bookrunner on the Toyota US green car loan ABS issued in 2015.

Our investment solutions

Green notes: investing in our portfolio of projects

Launched in 2013, Crédit Agricole CIB's green notes are green bonds that finance environmental projects.

A TRANSPARENCY REQUIREMENT

Crédit Agricole CIB's green notes follow the Green Bond Principles regarding the use of funds, the projects' evaluation and selection process, and reporting. A second opinion is provided by Sustainalytics, an extra-financial rating agency. The agency certified the methodology used to select the projects included in the green portfolio, and the sectors retained in the fight against climate change.

A PUBLIC PLACEMENT OPEN TO PRIVATE INVESTORS

Historically active in the issuance of green notes privately placed with institutional investors (including in Japanese Uridashi market), Crédit Agricole CIB recently opened several markets for private investors in countries such as Italy, Sweden, the United States and France. We were also the very first bank to propose a public offering of green notes with an AMF visa in the French market.

A NEW PRODUCT LINKED TO GREEN EQUITIES

To complete our offering, Crédit Agricole CIB proposes a structured product linked to the performance of green equity indices. Designed with MSCI, a global leading index provider, the underlying stock that composes the green index is selected according to environmental, social and governance (ESG) criteria. For investors, the index offers the opportunity to link the performance of their investments to companies with a significant share of their revenues generated by environmentally friendly activities.

Structuring your impact investments

Impact investment refers to the investment programmes made by a company in the private sector that combine profitability and a strong social and/or environmental impact. These projects finance sustainable business models, generally among underprivileged populations or in underprivileged areas. With the experience of Crédit Agricole Group's impact investors – in particular the Grameen Crédit Agricole Foundation – we assist you in structuring financial instruments and impact assessments that will allow you to reach your projects' financial and extra-financial goals.



OUR EXPERT'S OPINION

“With green investments, environmental impact and financial performance are no longer mutually exclusive. On the contrary, Crédit Agricole CIB offers investors the opportunity to take a decisive part in the energy transition, while adding value to their portfolio thanks to environment-friendly bonds. We are convinced that our clients can take advantage of the ESG aspects to improve financial performance.”

SAMY BEJI, GLOBAL HEAD OF STRUCTURING AND PRODUCT DEVELOPMENT

12, place des États-Unis CS70052
92547 Montrouge Cedex
France
+33 (0) 1 41 89 00 00

ca-cib.com



Crédit Agricole CIB



@CA_CIB
@CA_CIB_EN



With Ecofolio,
all paper
should be recycled

