I4CE
INSTITUTE FOR CLIMATE ECONOMICS
Une initiative de la Caisse des Dépôts et de l'Agence Française de Développement

2004 2015

A DECADE OF EXPERTISE ON CLIMATE ECONOMICS


economics
expertise
price
carbon
resilience
transport
climate
education
agriculture
decision
analysis
I4CE
energy
adaptation
forests
research
finance
debate
information
knowledge
development
studies
projects
cities
action
territories
international
investment
fact
transparency
sustainable
industry

editorial

"The creation of I4CE in 2015 is a step towards creating an agenda of solutions for the climate."

"I4CE – Institute for Climate Economics succeeds to CDC Climat Research, the research team specialized in climate change economics, created 10 years ago by Caisse des Dépôts group."

I4CE – the Institute for Climate Economics is an initiative of the Caisse des Dépôts, which continues to support us, and the Agence Française de Développement, which has joined this project, giving the Institute a strong international dimension. The two major French public financial institutions are thus joining forces to create a real think tank, open to other partnerships.

From the outset, I4CE – the Institute for Climate Economics – benefits from the expertise and reputation which CDC Climat Research has acquired over ten years through our publicly available research, our discussions with public and private decision makers, and our research partnerships with other teams in France, Europe and around the world. I4CE aims at strengthening this independent economic expertise and increasing its influence.

The creation of I4CE in 2015 is a step towards creating an agenda of solutions for the climate. We hope that our work will feed into efforts by France and international negotiators to reach an agreement in Paris in December. However, we have long believed that the transition towards a 'decarbonised' economy which is resilient to climate change does not depend solely upon work by governments.

We believe that three other categories of stakeholders are just as essential for ensuring that this change is successful:

- the industrial sector, and the energy sector in particular, the speed of transformation of which will depend greatly upon the inclusion of a carbon price in its model;
- the finance sector which now must incorporate the 2°C objective into the way in which it allocates capital;
- regional stakeholders which decide on the future of cities, agriculture and forestry.

We have developed and organised our research programme for the coming years around these three areas, with the aim of providing our partners with the keys to understanding and decision making, acting as a meeting point for the best academic work and the constraints of political and economic action.

This report will give you an overview of our activities and ways of working.

Pierre Ducret
Chair

Benoît Leguet
Managing Director

Chronicle

2004-2015
A DECADE OF INNOVATIONS TO TACKLE CLIMATE CHANGE

By adopting the UN Convention on Climate Change and its Kyoto protocol, the world committed itself to controlling greenhouse gas (GHG) emissions. As a priority, Europe targeted its industrial installations. In 2005, the European Union established the EU ETS, a GHG cap-and-trade scheme. Unprecedented on this scale, this mechanism aims to encourage industrial operators to invest, in a cost-efficient way, in the decarbonisation of their installations.

The French public sector began to organise itself around the mechanism. In 2004, the Caisse des Dépôts created an internal group known as Mission Climat. It was given a double objective: to contribute to the definition of a climate strategy for the Caisse des Dépôts group, and to encourage reflection among French and European stakeholders (private companies, institutions, universities, etc.) on combating climate change. As predecessor of I4CE – the Institute for Climate Economics, Mission Climat thus participated in discussions which led to the development of the national register for emission allowances. It also contributed to the creation of the European Carbon Fund, which invested in emission reduction projects, developed as part of the Kyoto protocol.

Launching domestic offset projects

Based on the work of Mission Climat, in 2006 the French government launched a 'domestic offset projects' scheme, aiming to encourage sectors of activity which were not covered by the EU ETS (transport, construction, agriculture, small industry), to reduce their carbon emissions.

Opening up to the world

In the wake of the climate summit in Copenhagen, the Caisse de Dépôts

1997
Signature of the Kyoto Protocol

2002
Political agreement to open, in 2005, the European Union Emissions Trading Scheme (EU ETS)

2005
Launch of the second phase of the EU ETS. Coming into force of the Kyoto Protocol

2006
The Stern Review on climate economics assesses at 1% the cost for stabilization at 2°C of global warming and 20% the cost of inaction

2007
Bali Summit which gives a roadmap to decarbonise the global economy

2008
Adoption of the 2020 European energy and climate package which imposes to the EU a 20% reduction of its GHG emission between 1990 and 2020

2009
Launch of the RGGI, a GHG cap-and-trade scheme implemented by 10 North-eastern states in the US which covers the energy sector. COP 15 ends with the Copenhagen Agreement

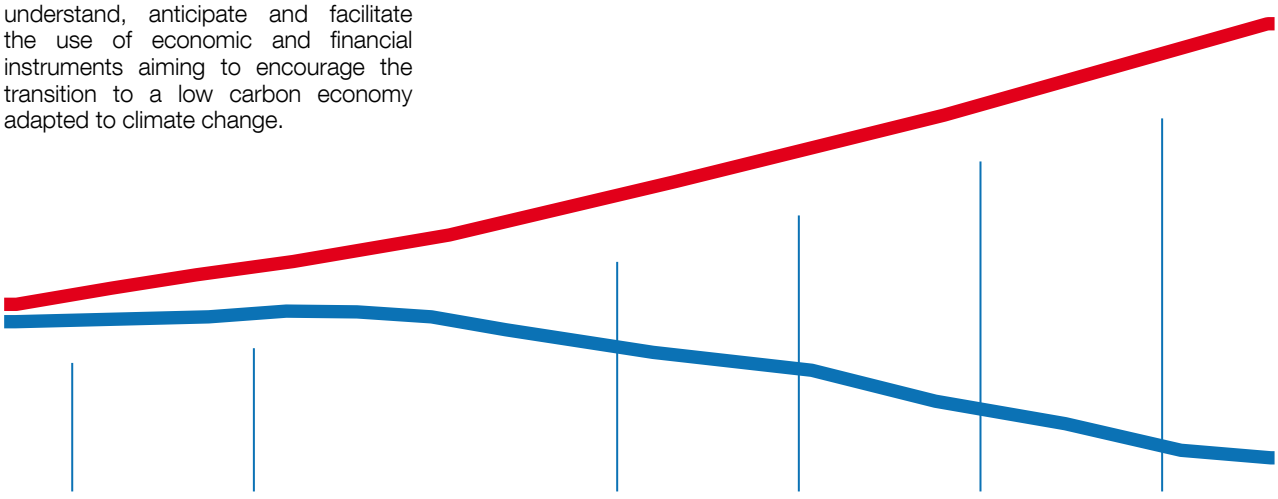
> “In 2004, the Caisse des Dépôts created an internal group known as Mission Climat.”

brought together all its activities into a single subsidiary: CDC Climat. Its research branch, CDC Climat Research, I4CE’s predecessor, aimed to provide independent advice on the analysis of economic issues relating to energy climate change in France and around the world.

Its goal was to help public and private sector decision-makers to better understand, anticipate and facilitate the use of economic and financial instruments aiming to encourage the transition to a low carbon economy adapted to climate change.

Its activities were based around four areas: European climate policy; international climate negotiations; cities and climate; agriculture, forestry and climate.

As a centre for research and development, CDC Climat Research conducted applied research in partnership with academic partners, institutions and private companies.



2010

Sixty States release their voluntary GHG emission reduction commitments

2014

Presentation of the 2030 European energy and climate package which imposes to the EU a 40% reduction of its GHG emission between 1990 and 2030. Implementation of the French carbon tax.

Announcement of the 12th Chinese five-year plan that introduces a series of regulations for energy savings and GHG emission reductions.

2015

Adoption of the Energy Transition law in France. COP 21 takes place in Paris. Launch of I4CE

2020

Peak of anthropic GHG emissions.

2030

The European Union has reduced its GHG emissions by 40% compared to 1990 level

2050

France has reduced by ¾ its GHG emissions compared to 1990 level

The project

THE INSTITUTE FOR CLIMATE ECONOMICS: A PLAN, AN AMBITION, A METHOD

In July 2015, Caisse des Dépôts and Agence Française de Développement co-founded I4CE-Institute for Climate Economics. The Institute for Climate Economics: a plan, an ambition, a method.

I4CE aims to bring together, within a service of general interest, the skills required to provide independent advice on economic questions relating to energy and climate policies.
It aims to contribute to the creation of conditions which can promote energy transition. Through both its applied and academic research, I4CE offers assistance to public and private sector decision makers, helping them to better understand, anticipate and use economic and financial instruments to encourage the development of a low carbon economy adapted to climate change. Incorporating the CDC Climat Research team, I4CE consists of some twenty researchers working on three areas of interest to those involved in energy transition:

Industry, energy and climate
The team's previous work programme was established in 2005 and focused on carbon prices implemented in particular in, the energy and industry sectors. For the 2015-2016 period, the flagship project focuses on the coordination of the EU ETS and energy and climate policies in Europe (COPEC 2030 research program). Supported by French Finance and Environment Ministries and the public sector and the main French EU ETS operators such as energy suppliers, the project aims to assess the 2020 energy and climate package in order to support the 2030 energy-climate package negotiations, involving measures which will constitute the EU's 'contribution' to COP 21.
The team also monitors carbon regulations and energy efficiency in some 40 countries, information which feeds back into occasional research on carbon pricing policies in specific countries.

Territories and climate
This second programme focuses on climate policies and action on the subnational level. The four working themes are agriculture, forestry, cities and adaptation to climate change. In addition to the three research 'clubs' working on agriculture, forestry and cities, which the team leads with key partners, several other research projects

3 research programs

- understanding policies for the low-carbon transition in the industry and energy sectors;
- identifying and analyzing courses of action in the fight against climate change in the agriculture and forestry sectors as well as urban areas;
- analyzing the mainstreaming of climate change into financial decision-making by public and private entities.

I4CE
INSTITUTE FOR CLIMATE ECONOMICS
Une initiative de la Caisse des Dépôts et de l'Agence Française de Développement

"I4CE conducts research and consultation projects on the French, European and international levels, with academic partners and think tanks and the financial support of private companies, public authorities and institutions."

are underway. One of the main projects, known as Abstract-Colurba, examines the barriers to regional authorities' adaptation strategies.

Finance, investment and climate
Initiated in 2012, this research aims to facilitate the integration of climate into financial decision making. This series of projects also analyses the interaction between public policy (regulations, subsidies, support mechanisms, investment programmes) and private investment in energy transition.
Recent and ongoing work includes: Landscape, a panorama of financial flows for energy transition, conducted to date in France; an analysis of the contribution of finance to energy transition by the five European public finance institutions; and an analysis of the climate practices of international sponsors.

How we operate

Expertise for the general interest
I4CE conducts research and consultation projects on the French, European and international levels, with academic partners and think tanks and the financial support of private companies, public authorities and institutions. I4CE researchers publish around thirty publications per year including research reports, articles in peer-reviewed journals and expert reports.
The team also promotes its expertise by conducting expert advisory missions, which aim to stimulate public decision making or to be widely disseminated.

Strengthening the capacities of economic actors.
The dissemination of information also includes the publication of information for non-specialists such as notes and booklets. I4CE experts also conduct research-action projects. Finally, they organise training for public and private sector decision makers.

Contribution to the public debate.
I4CE organises events to encourage interaction between the academic world and public and private sector decision makers. I4CE responds to public consultations issued by French, European and supranational institutions. I4CE experts participate in expert working groups on the French, European and international levels.

Incorporating the CDC Climat Research team, which has been supported by the Caisse des Dépôts for the past ten years and which has now been joined by the Agence Française de Développement, I4CE is strengthening France's role in economic research applied to climate change and increasing its international influence.

3 means of action

- Providing research and expertise
- Building capacity
- Contributing to public debates

Research and expertise

INDUSTRY, ENERGY AND CLIMATE

Putting a price on carbon

Redirecting the economy towards low-carbon investments requires economic actors to integrate the cost of the negative externalities of greenhouse gas emissions. Economic models for investments should not only take into account the price of the asset in question, but also the cost to society of that asset's carbon footprint. In the United States, the social cost of one tonne of CO_2 emissions is officially evaluated as between US$12 and US$117.[1]

In practice, the integration of climate externalities is reflected by carbon pricing. During the UN Climate Summit held in September 2014, 73 national governments, 11 regional executives and 1,000 private companies that were responsible for half of the world's carbon emissions supported the idea of carbon pricing. Since then, 25 coalitions of companies and investors, representing more than six million firms, have signed the 2015 Business and Climate Summit declaration.

In line with political and regulatory choices made by governments, several economic instruments were established: fees, trade exchanges, taxation, standards and carbon reference values. Some forty countries have already reached a carbon price of around 12% of global CO_2 emissions, following the pioneer movement of the European Union. Ten years after its launch, the EU is reforming its emissions trading scheme (EU ETS). In January 2014, the European Commission presented a range of measures aiming to strengthen the climate policy of the EU28 and in July 2015 to prepare the EU ETS fourth phase, running from 2020 to 2030.

What reforms can be expected for the EU ETS?

I4CE has initiated a research program to identify potential improvements for the EU ETS. The Copec 2030[2] program focuses on five areas: the definition of the CO_2 target in line with energy policies (RES and EE), the reform of the EU ETS with the Market Stability Reserve, the introduction of new sectors such as the road transport sector, the CO_2 price effect on competitiveness and the low-carbon funding mechanisms based on the EU ETS such as auctioning revenues. Presented in spring 2015, the first results allowed I4CE's partners to participate actively in the preparatory work for the revision of the EU ETS Directive, the new version of which was released on July 15, 2015.

(1) http://www.epa.gov/climatechange/EPAactivities/economics/scc.html
(2) For the Coordination of Policies on Energy and Climate by 2030.

"As part of the European CARISMA project, I4CE helps maintain the European database."

Strengthening the effectiveness of the EU ETS

In its communication of January 2014, the European Commission suggested raising the greenhouse gas emissions reduction target to 43% by 2030 and juxtaposing two European renewable energy and energy efficiency objectives. Overall, these targets were approved by the European Council in October 2014, although how they will be met remains to be decided. A successful transition to a low-carbon economy will involve raising awareness of climate issues among economic stakeholders. As part of the European CARISMA project, I4CE helps maintain the European database, which public and private sector decision makers can use to improve their understanding of climate change.

Accelerating the decarbonisation of industry

To plan for possible changes in the EU ETS, our researchers evaluate the influence of all factors determining changes in quota prices (economic crises, introduction of renewable energies, energy efficiency, energy costs) and the environmental and economic performance of the community system. This research aims to give European decision makers clarity on the measures to take to improve the effectiveness of the EU ETS and to accelerate the decarbonisation of European heavy industry at the lowest cost.

I4CE is also creating a map of climate standards implemented by domestic and international public financial institutions (PFIs). The analysis of this work is currently being published and will enable an understanding of the strategies, operational procedures and decision-making tools used by these international financial backers, which may have an impact on the industrial and energy sectors.

Patrick CRIQUI

Director of the Sustainable Development and Energy Economy Laboratory (EDDEN), Université Pierre Mendès France, Grenoble

"We have worked with I4CE researchers for some time. For instance, together we have studied how French regional authorities can benefit from the Kyoto mechanisms. I wish we can continue our joint work on the establishment of carbon pricing: we have much to learn from China's experience in this respect."

Research and expertise

FINANCE, INVESTMENT AND CLIMATE

Financing the transition towards a low-carbon economy

Financing the transition towards a low-carbon economy which is resilient to climate change is an unprecedented challenge. Achieving this objective requires the investment of trillions of dollars per year. This figure may appear high, but in reality it represents just a small percentage of current investments in the world and a few additional hundreds of billions of dollars per year compared to business as usual. Financing must be redirected to respond to the needs of a low-carbon economy rather than continuing to support the current high-carbon economic model. How can this redirection be achieved?

Improving the use of public resources for the climate

Governments can steer the economy towards this new model – but it is neither their role nor in their means to finance it entirely. Participation from the private sector, both in terms of capital and investment capacity, is essential. However, without clear signals from a coherent social and economic regulatory context, the private sector will not spontaneously redirect financing to support an economics model limiting global warming to less than 2°C. To better understand this context, I4CE – the Institute for Climate Economics is thus studying the public drivers to stimulate private investment in a low-carbon economy and the climate-

Accelerate the shift to low-carbon economy

I4CE conducted a study on the integration of the transition towards a «low carbon» and resilient economy in the investment decisions of development finance institutions (DFIs). Part of the Mainstreaming project, the report identifies the tools and measures used by the DFIs to integrate climate challenge in their decisions at all stages of their financial decsion making processes. The study also identifies way to accelerate the shift towards an economy consistent with the commitment to keeping global warming below 2 ° C and improving resiliency.

(1) http://www.developpement-durable.gouv.fr/IMG/pdf/gt4_financement_dnte.pdf

> "I4CE is studying the public drivers to stimulate private investment in a low-carbon economy."

related means of action of the main European and international public financial institutions (such as its study on the practices of the CDC, KfW, EIB, GIB and the EBRD). I4CE's researchers have also assessed monetary policy projects proposed to encourage green investments.

Understanding financing methods

In France, the estimated scale of investment required to make the energy transition varies from 40 to 60 billion euros per year.[1] Understanding how this investment is – and will be – financed is essential. As early as 2014, I4CE published a landscape of climate finance flows in France.This study identifies and tracks the investment expenditure in France in 2011 that had a direct or indirect impact on reducing greenhouse gas emissions. In that year, French economic stakeholders invested €22.2 billion in emission reduction projects, including €9 billion in renewable energies and €8.3 billion in improving energy efficiency. The continuation of this study will help French public authorities fulfil their reporting obligations under the Law on Energy Transition for Green Growth, published on 18 August 2015.

The need for a systematic approach

Although the finance sector has recently taken steps to integrate climate issues, progress remains marginal. Climate change has revealed a new range of risks for companies and financial institutions. In addition to the direct risks climate change poses for the finance sector (extreme events, temperature variations, coastal risks, etc.), regulatory uncertainty has become a principal concern. For example, at the request of G20 member governments, the Financial Stability Board, a global financial regulatory body, is studying how financial stakeholders have taken into account climate constraints, which are often extreme and long-term risks and poorly understood by financial actors today.

Alain Grandjean

Economist, Co-President of French Presidential Report on Innovative Climate Finance

"After Copenhagen, the richest countries were able to raise several tens of billions of dollars of public money to help the poorest countries adapt to climate change. These same wealthy countries are now struggling to finance the US$100 billion promised in yearly aid from 2020. To visibly reduce our carbon footprint and adapt to global warming, thousands of billions of dollars are required. Mobilising and raising awareness in the private sector is essential; the work of I4CE is making a useful contribution to these efforts."

Research and expertise

CITIES AND CLIMATE

Concentrated risk

Cities in particular will feel the effects of climate change most strongly. More than half of the world's population already lives in urban areas and this urbanisation will only continue to rise. The UN estimates that this proportion will reach 66% in 2050[1]. This population concentration leads to specific risks. Cities are systems of interconnected infrastructures and often vital material goods, which are sensitive to any abrupt change in their environment: sea level rises and the resulting consequences, rising average temperatures, increases in the number and intensity of climate events (heat waves, intense rain, etc.), worsening local pollution, movement of clay soils, etc. Increases in certain health risks are also a challenge, such as respiratory diseases and the emergence of tropical diseases in temperate regions.

Two-thirds of CO_2 emissions

Cities are responsible for 70% of CO_2 energy emissions and rely on various mitigation and adaptation policies. Cities must lower the risks raised by current issues (magnified by the consequences of global warming, such as heat islands) but also the risks of unprecedented events, such as a rise in sea levels, which will affect local authorities in serious ways.

Authorities struggle to adopt climate policies for many reasons: insufficient understanding of complex climate issues, institutional staff turnover, lack of cross-cutting services, inadequate resources and insufficient tools. There are a range of technical, psychological, administrative, economic and political hurdles which need to be quickly overcome.

Assess the effectiveness of local action

In partnership with the French Development Agency (AFD) and the Environment and Energy Management Agency (ADEME), I4CE initiated the project Abstract-colurba[2]. By studying the actions of 10 urban and metropolitan Overseas, it aims to analyzing the levers and barriers to implementation of adaptation strategies to climate change. The study should enable local decision makers to better comprehend climate policies that aims at adapting to the impacts of climate change. The first results are expected in 2016.

(1) In rapport 2014 from United Nations department of Economic and Social Affairs
(2) Stands for « Analyse des leviers et Barrières à la mise en place de STRAtégies d'adaptation aux Changements climaTiques »

"I4CE researchers have been working on local climate change issues for years."

Subnational tools

I4CE researchers have been working on local climate change issues for years. Its researchers assess policies implemented at the subnational level (Subnational climate and energy plans, development of renewable energies, combating fuel poverty, etc.) in France and abroad. They also study tools made available to the regions to conduct and finance mitigation and adaptation projects: access to carbon markets, green bonds, financial tools for adapting infrastructures, promoting the reduction of greenhouse gas emissions, revegetation of urban areas, participative financing, etc.

Removing barriers to action for the climate

To facilitate the work of cities and regions faced with climate change, I4CE develops a simple tool for evaluating energy and water consumption according to different climate scenarios. This research allows them to study how they can integrate adaptation into the design stage of city planning projects. To remove certain barriers, researchers also analyse vulnerability and cost assessment methods as well as the barriers to and drivers of decision-making mechanisms relating to adaptation strategies based on field work with local French stakeholders.

The results of this and other relevant research are regularly presented to members of our Cities, Energy and Climate Club. This expert discussion platform, developed in partnership with Météo-France and the French Ministry of Environment, brings together local decision makers, private sector representatives and academic experts.

Ronan DANTEC

French Senator and spokesperson for the United Cities and Local Governments (UCLG) global network.

"The law on energy transition obliges local authorities to look into the resources required to reduce their emissions by 40% by 2030. The most important thing is first to establish a climate strategy at the local level, and then find the resources to implement it. The French 2015 Act on Energy Transition is a new, complex toolbox that we need to learn how to use. As such, I4CE can assist regions to assess the effectiveness of their policies by sharing good practices and making its financial engineering expertise available."

Research and expertise

AGRICULTURE, FORESTRY AND CLIMATE

Two unique sectors that emit GHG and sequestrate carbon

The agriculture and forestry sectors are very particular in terms of climate change because they emit greenhouse gases (GHG) but can also sequestrate carbon and thus reduce atmospheric carbon stocks. These two sectors emit very high levels of GHGs: agriculture and deforestation alone are responsible for more than 20% of the world's GHG emissions; in France, amounts are slightly lower at 18%. Agriculture and forestry emissions are different for several reasons. They largely result from biochemical reactions and biological processes related to photosynthesis. Deforestation primarily releases CO_2 into the atmosphere while agriculture, unlike many other industries, does not. Rather, it chiefly releases nitrous oxide (N_2O) and methane (CH_4), two powerful greenhouse gases[1]. In France, around half of these emissions result from nitrogen fertilisation practices and the other half is due to the ruminant digestive system and animal waste management. Another difference is that these emissions are extremely widespread because they are released by thousands of French farms.

The other main particularity of the agriculture and forestry sectors is their ability to mitigate climate change by removing carbon from the atmosphere and storing carbon in the soil and biomass, while providing fuel, materials and fossil fuel alternatives.

Accounting specificities

Carbon accounting of sector emissions is imprecise. This is mainly due to the difficulty of evaluating CH_4 and N_2O emissions, but also to current methods such as the IPCC guidelines. These guidelines only take into account business activities (in the case of

Better quantify the flow of agricultural GHGs

In partnership with the Citepa and the LSCE, I4CE launched the MRV program. Objective: identify the sectors whose inventories could be refined through the use of innovative technologies. Based on the analysis of fifteen existing devices and integrating the requirements of regulators (scope, accuracy, cost, comparability), this study provides new technologies to refine certain types of inventories, which, ultimately, will help optimize the integration of agriculture and forestry in the carbon economy.

(1) Over 1 century, global warming potential for N2O is 310 times higher than CO2 against 25 times for CH4.
(2) monitoring, reporting, verification (MRV)
(3) In partnership with APCA, INRA, ASFFOR, CNPF/Forêt Privée Française, ONF, la Société Forestière, and SySSO.

> "I4CE conducts various research projects to promote the mitigation role of the agricultural and forestry sectors."

agriculture, the number of animals, hectares of land, etc.) and not operating methods. However, methane emissions for a herd of cows can vary by 15% depending on feed type. For forestry, the difficulties of estimating forest sinks and carbon storage in wood products in particular make accounting challenging. It is therefore essential to improve techniques for monitoring, reporting and verification of greenhouse gas emissions[2].

Sectors vulnerable to climate change

The agriculture and forestry sectors are vital to the production of food, materials and energy and will be directly affected by the consequences of climate change. The increase in the number and intensity of extreme climatic events (drought, heat waves, fires, heavy rain, storms, etc.) may lead to significant crop and standing biomass losses and an increase in the erosion of arable land. In some regions, the arrival of new pests will further reduce both agricultural and forestry outputs. Several avenues need to be explored to address the multiple challenges the agriculture and forestry sectors face as the result of climate change (mitigation, adaptation and production), while future climate change and the growing human population will both increase the stakes. Solutions include diversifying crops and crop varieties, improving water management (from field to the water basin), planning for risk (by reorganising product storage) and encouraging the use of appropriate forest species and good forestry management techniques.

Developing the role of agriculture and forestry in mitigating climate change

I4CE – the Institute for Climate Economics conducts various research projects with a view to developing the knowledge and tools necessary to promote the mitigation capacity of these two sectors. These projects, especially those conducted with the research clubs[3] on forestry and agriculture, aim to develop economic tools, analyse relevant public policies and regulations, and support the development of agriculture and forestry projects.

For example, I4CE assesses the effectiveness of carbon offsetting schemes in order to promote both a reduction in agricultural emissions (improved management of nitrogen fertilisation, methanisation of animal manure, etc.) and encouraging stakeholders in the forestry sector to combine sustainable forestry management, the production of wood products and the optimisation of carbon storage in forests (REDD+, voluntary carbon compensation through afforestation projects or improved forest management).

Jean-François SOUSSANA

Scientific Director – Environment at the French National Institute for Agricultural Research (INRA)

"As a participant in the Climate and Agriculture Club, I appreciate not only the freedom of expression it allows, but also the quality of scientific information which is disseminated by I4CE's experts. This helps raise awareness and mobilises sectors around climate challenges. These discussions have undoubtedly also facilitated the establishment of relationships between partners to conduct research or other projects, particularly those funded by European programmes."

Contributing to the public debate

ENCOURAGING DISCUSSION AND THE DISSEMINATION OF INFORMATION

I4CE – the Institute for Climate Economics, France's leading think tank on climate economics, aims to help public and private decision makers to better understand, anticipate and facilitate the use of economic and financial instruments encouraging energy transition.

Contributing to the public debate

In addition to its applied and academic research activities, I4CE has decided to contribute its expertise to public debate. This expertise results from experience acquired during research conducted for the benefit of the French Government, the European Commission or international institutions (World Bank, European Investment Bank, KfW, etc.). I4CE experts also support public authorities during major consultation exercises, such as the French national debate on energy transition or European topics like the reform of the EU emissions trading system (EU ETS).

Disseminating and sharing research

I4CE strives to share the results of its applied and academic research, making it understandable and usable by public and private decision makers. With this in mind, I4CE has developed original approaches to sharing expertise. By means of example, I4CE leads three discussion and reflection clubs. The Climate and Agriculture Club[1] offers members an in-depth understanding

An open and multidisciplinary expertise

Recognized research organization, I4CE has a team of twenty experts. In addition to its programs, the Institute conducts numerous collaborations with over 90 partners in France and Europe. Each year it organizes around thirty events, for the press and its partners. On average, its experts release about thirty publications per year.

(1) Created in partnership with INRA and APCA.

> “In addition to its applied and academic research activities, I4CE has decided to contribute to public debate.”

of economic incentives to control their emissions, scientific monitoring of mitigation and adaptation techniques, assessments of the potential impacts of climate change, and up-to-date monitoring of changes in these mechanisms.

Designed to facilitate access by the forestry sector to carbon markets, the Carbon, Forest and Wood Club analyses existing mechanisms to add value to forest carbon, sharing feedback and developing economic tools to derive value from carbon where they are lacking. The Climate, Energy and Cities Club, which developed through a partnership with Météo-France and the French Ministry of Ecology, raises awareness among regional authority leaders of the local impact of climate change and the organisational and financial resources to address it.

Raising awareness and training

I4CE also conducts numerous training programmes. In partnership with Climate-KIC, I4CE’s researchers have informed various industry professionals about climate-related issues specific to their sectors as part of the Climactio programme. I4CE researchers also give lectures in the most prestigious universities in France. They participate and organise national and international conferences (International Climate Finance Day, Climate Week, COPs). They contribute to a very wide dissemination of knowledge through new teaching and awareness raising methods, including massive open online courses (MOOCs) and serious games.

Every two months, the Observatoire CarEE – Carbon and Energy Efficiency, created by I4CE, hosts breakfast debates. This is an opportunity to present news on carbon and energy efficiency regulations to economic and institutional actors. In 2015, with the Institut Français des Relations Internationales, I4CE organised a series of breakfast debates aimed at economic decision makers to encourage a better understanding of the challenges of COP21.

Diane SIMIU

Director of Conservation Programmes for WWF-France

“Whether it is carbon markets or energy transition, I have been struck by the originality of the approaches taken by I4CE. Its experts combine thorough knowledge of their subject with perfect understanding of its environment. In addition, they don’t hesitate to investigate all possible options. Their work is extremely rigorous and their analyses are often highly relevant and useful to us.”

The team


1


2


3


4


5


6


7


8


9


10


11


12


13


14


15


16


17


18


19


20


21


22

1 Marion AFRIAT
Project Manager – Industry, Energy and Climate

2 Emilie ALBEROLA
Program Director – Industry, Energy and Climate

3 Cécile BORDIER
Project Manager – Territories and Climate

4 Malika BOUMAZA
Partnerships Manager

5 Ian COCHRAN
Program Director – Finance, Investment and Climate

6 Lara DAHAN
Poject Manager – Industry, Energy and Climate

7 Mariana DEHEZA
Project Manager – Finance, Investment and Climate

8 Vivian DEPOUES
Research Associate – Territories and Climate

9 Pierre DUCRET
Chair

10 Marion DUPONT
Business Development Manager

11 Claudine FOUCHEROT
Project Manager – Territories and Climate

12 Julia GRIMAULT
Project Manager – Territories and Climate

13 Hadrien HAINAUT
Project Manager – Finance, Investment and Climate

14 Romain HUBERT
Research Associate – Finance, Investment and Climate

15 Matthieu JALARD
Poject Manager – Industry, Energy and Climate

16 Jessica LECOLAS
Event Coordinator & Administrative Assistant

17 Benoît LEGUET
Managing Director

18 Alexia LESEUR
Program Director – Territories and climate

19 Romain MOREL
Project Manager – Finance, Investment and Climate

20 Igor SHISHLOV
Project Manager – Finance, Investment and Climate

21 Guillaume SIMONET
Project Manager – Territories and climate

22 Manasvini VAIDYULA
Research Associate – Industry, Energy and Climate

An initiative of...

CAISSE DES DÉPÔTS

Caisse des Dépôts and its subsidiaries, including Bpifrance and CNP Assurances, together form a State-owned group that is a long-term investor serving France's public interest and local and regional economic development. This role was reaffirmed by the French economic modernisation act of 4 August 2008.

The Group has renowned expertise in managing public-service mandates and focuses its efforts on four types of transition that are strategic for France's long-term development: regional, environmental/energy, digital and demographic.

www.caissedesdepots.fr

AGENCE FRANÇAISE DE DÉVELOPPEMENT

The Agence Française de Développement is a financial public institution operating under the dual auspices of the French Ministry of Foreign Affairs and International Development and the Ministry of the Economy, Industry and the Digital Sector. It aims at implementing the French policy for Development Cooperation, struggles against poverty and acts in favor of sustainable development in sub-Saharian Africa, Asia, Middle East, Latin America, the Caribbean and in French overseas. In 2014 AFD thus financed projects and programs to an amount of as €8.1 bn (€4.5 bn in 2008).

www.afd.fr

partners

OUR PARTNERS HAVE TRUSTED US SINCE 2004

I4CE works with a large and established network of partners.

Ministries, Public Agencies and Institutions

Agence Nationale de l'Habitat, Agence Française de Développement, Agence de l'Environnement et de la Maîtrise de l'Energie, Agence Parisienne du Climat, Agence Wallonne de l'Air et du Climat, Caisse des Dépôts, Ministère de l'Ecologie, du Développement Durable et de l'Energie, Ministère de l'Economie, de l'Industrie et du Numérique, Ministère du Redressement Productif, Ministère de l'Agriculture de l'Agroalimentaire et de la Forêt, Délégation Interministérielle à l'Aménagement du Territoire et à l'Attractivité Régionale, Conseil Général de l'Environnement et du Développement Durable, Organisation de Coopération et de Développement Economiques, Observatoire National sur les Effets du Réchauffement Climatique, Ouranos, Programme des Nations Unies pour l'Environnement, Banque Mondiale, Climate KIC, GIZ.

Subnational Govenrments

General Councils : l'Oise, Seine et Marne, Val-de-Marne. Regional Councils : Aquitaine, Bourgogne, Bretagne, Champagne-Ardenne, Haute Normandie, Ile-de-France, Midi-Pyrénées, Nord-Pas-de-Calais, PACA, Rhône-Alpes. Cities and local authorities : Grand-Lyon, Communauté Urbaine de Strasbourg, Brest Métropole Océane, Communauté d'agglomération de Montpellier, Ville de Paris, Communauté Nice Côte d'Azur, Nantes Métropole, Communauté de l'agglomération havraise, Communauté urbaine de Strasbourg, Collectivité territoriale de Corse, Plaine Commune

Companies

Air Liquide, Astrium services, BASF Agro, Banque fédérale des Banques Populaires, Carbone 4, Cargill Premix Nutrition, Crédit Agricole, Dalkia Egis, EDF, Ecoact, Ecocert, Eiffage, Enerdata, Engie, GDF Suez Energie Services, Icade, Icare Environnement, InVivo AgroSolutions, Lafarge, Lyonnaise des eaux, La Société Forestière, Maisadour, Météo-France, natixis, Services Industriels de Genève, SCOR, SLB, SNCF, Southpole, Solvay Energy Services, Sofiprotéol, Total, Transdev, Veolia, Voies Navigables de France.

Associations and Federations

Association Aquitaine Carbone, Association des sociétés et groupements fonciers et forestiers, Centre interprofessionnel technique d'études de la pollution atmosphérique, Assemblée permanente des chambres d'agriculture, Fédération des forestiers de France, La Fondation pour l'Education à l'Environnement en Europe, Fondation Goodplanet, France Bois Forêt, Groupement forestier Chesnaie Pinsonnellerie, IETA, Office National des Forêts, Organisation nationale interprofessionnelle des graines et fruits oléagineux, Union de la coopération forestière française, Centre national interprofessionnel de l'économie laitière, Société des agriculteurs de France, Syndicat des sylviculteurs du Sud-Ouest, WWF France.

Research Centres, Think Tanks and Universities

École Nationale du Génie Rural, des Eaux et des Forêts, Centre d'Etudes et d'expertise sur les Risques, l'Environnement, la Mobilité et l'Aménagement, CEPS, Centre International de Recherche sur l'Environnement et le Développement, Centre for International Governance Innovation, Centre Scientifique et Technique du Bâtiment, Chaire Economie du Climat, Chaire Energie et Prospérité, CNRS, Danmarks Tekniske Universitet, Ecole Nationale Supérieure des Mines de Paris, 2° Investing Initiative, EDDEN, Ecole des Ingénieurs de la Ville de Paris, Environmental Defense Fund, Enviros, IDDRI, IFP Energies Nouvelles, IFRI, Institut National de la Recherche Agronomique, l'Institut technologique FCBA, Joint Implementation Network, Laboratoire des Sciences du Climat et de l'Environnement, , Laboratoire d'économie des transports, MIT, Stockholm Environment Institute, Université Bordeaux IV, University College Dublin, Uni Graz, Université Paris Sud XI, Université Pierre et Marie Curie, Université Pierre Mendès France, Université de Pyrée, Université de Radboud.


economics
expertise
price
carbon
resilience
transport
climate
education
agriculture
decision
analysis
I4CE
energy
adaptation
forests
research
finance
debate
information
knowledge
development
studies
projects
cities
action
territories
international
investment
fact
transparency
sustainable
industry

I4CE
Institute for Climate Economics
47 rue de la victoire, 75009 Paris, France
+33 1 58 50 87 10
contact@i4ce.org
www.i4ce.org
@I4CE_

Design and production: ENERGOGRAD – **Graphic design:** Pascale MICHON – **Imprim'Vert®** – Printed on PEFC-certified paper.