

**INSTITUT  
POUR  
LA VILLE  
EN  
MOUVEMENT**  
PSA PEUGEOT CITROËN

CITY  
ON THE  
MOVE...

A NEW PROGRAM  
BY THE CITY  
ON THE MOVE INSTITUTE

Public hearings of  
AMERICAN EXPERTS by  
EUROPEAN SPECIALISTS

“Climate change,  
urban mobility and *Cleantech*”

FOR A NEW KIND OF CONTRIBUTION TO THE DEBATE on  
mobility issues and energy in the context of  
climate change,  
AT A TIME WHEN ASSESSMENTS ATTRIBUTE ONE THIRD OF  
GREENHOUSE GAS EMISSIONS TO TRANSPORTATION.

## *Summary of initial exploratory work in the USA*

**This summary gives a preliminary outline of approaches to climate change in the United States and the main players involved. This outline is based on interviews with US experts and observers, a preliminary reading of the literature and an analysis of coverage of the subject in different media (the web, press, broadcast public debates, etc.).**

### **I- Recap of background factors**

To begin with, it is important to describe a number of background factors which, though in principle secondary, are crucial to an understanding of US approaches to climate change.

Several structural features need to be taken into account:

- High demographic growth of around 1.2% a year (birth rates amongst the highest of Western countries at 2.1 children per woman), i.e. more than 400,000 new Americans every year. For many people, the issue is about meeting the demand — in particular the energy demand — from this fast-growing population and about using demographic growth to drive a resurgence in economic power (especially consumption).
- A possible shift in political models of government. Two possible forms of change are suggested: some political analysts think that a new model of government is gradually winning over public opinion. In this model (with Obama as its symbolic representative), cultural and ethnic

communities (and the balances between them) become less crucial. American society is reconciled and considered holistically rather than as a diversity of interests. The other form of change proposed by sociologists is the emergence of a politicized urban upper middle class, which will be more influential in political choices (making middle America's middle class less critical to electoral outcomes). The suggestion is that this "new class", with its greater interest in environmental questions, will move climate change to the top of the political agenda at both local and national level.<sup>1</sup>

- The resurgence of movements to protect nature and US nature reserves. The US has a relatively long-standing cultural and legislative tradition in this domain, built up following a succession of campaigns and political debates. These debates are now re-emerging (and increasingly linked to the energy crisis). The most recent debate on the reopening of offshore oil exploration illustrates the resurgence of the "protection of nature" as a major political issue.<sup>2</sup>
- A very wide disparity in climatic, geographical and natural characteristics, which results in climate change being perceived differently depending on local conditions: the consequences take different forms, from rising sea levels in Florida, to more frequent hurricanes in Louisiana, to shrinking glaciers in Montana. Other States are not directly affected by the potential for climate change to increase or amplify these natural risks. As a result, local debates take different forms, and positions in national debate vary widely, depending on the specifics of the issue.
- The "energy profiles" of these States and regions differ greatly. On the production side, some States draw their power largely from hydroelectricity, while others are highly reliant on hydrocarbons. On the consumption side, fossil fuels are the primary power source, but other energy forms contribute to widely varying degrees, depending on conditions. In addition, the potential for the development of renewable energy (solar power, wind power, biofuels, etc.) is highly dependent on the climatic, geographical or hydro-geological features of the different regions. Since the energy argument is largely built around these local conditions, it is essential to take them into account in all their diversity. In other words, efforts to cut CO<sub>2</sub> emissions will vary greatly from one State to another.
- A greater awareness of the issue of climate change in US society over the last year. Several factors have contributed to this, including (paradoxically) the positions taken by the Bush administration, which helped to boost media coverage, bringing it within the scope of the big media networks. Nonetheless, this wider awareness is still based on contingent factors.

These contingent but potentially structural factors include:

---

<sup>1</sup> These two "changes", their scope and their impact on political life and US political structures, are a matter of research and debate. They remain to be verified.

<sup>2</sup> In brief, in July 2008, to deal with the energy crisis, President George W. Bush proposed reauthorising the operation of offshore oil platforms along the American coast. Senators, state governors and campaign organisations in Florida and California mobilised against the proposal.

- the change in the public stance of the Churches (Episcopal, evangelical ...) on the subject. These Churches are particularly influential with the Republican electorate. In the last few months, several representatives of these Churches have called on their adherents to contribute to the effort to combat climate change (along the lines: “we also need to protect and look after God’s creations, starting with the Earth...”). These shifts were announced during the electoral period, and had the effect of altering the views of some of the electorate as well as some Republican candidates;
- the substantial media campaigns conducted by a number of politicians, e.g. Al Gore and his Foundation, who became the political vanguard for the movement. Whilst bringing the topic into the public eye, this campaign also generated negative reactions, resistance, criticism and opposition from a number of US political figures;
- the launch of the Obama administration’s economic revival plan, in which energy policy forms a central plank.

## **II- Preliminary observations on Cleantech solutions**

An analysis of the United States and of US attitudes suggests the following conclusions on Cleantech:

- The term Cleantech does not simply refer to a collection of environmentally friendly technologies (see dossier on Cleantech), but more broadly to the process of turning these technologies to economic advantage. The term itself is a marketing construct designed as a quick and simple way to put across the idea that new products and services on the market are more environmentally friendly. Several authors (adherents and opponents) are trying to make Cleantech a concept that is recognizable and easily identifiable to different groups. At present, the term is little known, but it is understood as a conflation between technology and respect for the environment;
- In addition to spreading the label, the first objective for promoters of clean technologies is to make it an economic sector in its own right, a coherent and acknowledged ensemble of industries and financial activities;
- Clean technologies and the industries associated with them all have their origins in existing sectors. It is not an ensemble created from scratch through the mere fact of innovation. Wind power and hydro-electricity were and remain part of the power industries. Until now, photovoltaics and insulation were considered part of the construction sector. What the analysts and promoters of Cleantech have done is to take these “technological systems” (and production processes) out of their original sectors, and position them in this new economic sector under the label of Cleantech. The message and focus on technological innovation has therefore created a certain confusion, giving the impression that this is a totally new sector, representing a complete break with existing industries;

- In other words, the aim of the promoters of Cleantech is to redraw the sectoral map, in order to highlight and enhance the status of the sector referred to by this label. This enables them to split off the fastest growing bits of the traditional economic sectors. The image of a sector that is “totally new”, because driven by “new technologies” themselves “developed by new companies”... contributes to this process of extraction by removing the old boundaries.

The objective is twofold:

- to create an investment sector and have it accepted by the financial community;
- to demonstrate that this is a fast-growing sector (all the articles, books, reports begin by quoting the statistics on the new sector’s double-digit growth).

The “pattern” of the new economy here is highly significant:

- “special sector”, “a break with the old economy”, “based on rapid and fast-expanding innovations”,
- “impact on daily life”, therefore “with high sales and profit potential”,
- “driven by start-ups and small flexible businesses” (the economic model involves testing the “new” products through small firms. Using small firms as a selection filter is a low-risk way of identifying THE product that will become a commercial success and which can therefore move into industrial production and mass distribution).

The characteristics of the approach to Cleantech in the US reflect certain patterns in the US economy:

- They demonstrate the growing interest of some financial institutions (still a minority in the US) in environmental issues, whereas these players are absent from the debate in the European context (except in the UK);
- They indicate a possible source for significant action on climate change through market mechanisms, whereas in Europe the approach to consumer goods is primarily based on regulation and the taxation of their environmental effects.

Our analysis of Cleantech therefore demands special emphasis on the types of information they reveal and their specific focus. It does not identify all the methods and approaches currently emerging, or beginning to be discussed, in the USA. It is particularly effective in establishing outlines within the full range of situations (outlines, it is true, that contrast markedly with European approaches).

### **III- How the question of climate change is structured within the political and social spheres**

At a time when there is growing awareness of climate change as an issue, the specialists and observers we consulted speak of the lack of structure in the debate. Beyond the stereotypical polarizations — “for and against Kyoto” — which have now disappeared, these observers can identify no structure, no demarcation lines, no specific and recurrent angles of approach. As one respondent said: “no one knows how to delineate the problem of climate change in the US.” Some approach it as a problem of economics or geopolitical leadership, others as a local environmental problem. Yet others see it as an electoral theme through which they can restore their political virginity.

The observers we spoke to explain this dispersed and fragmented vision in several ways: the “novelty” of the topic, its “exoticism” in a country politically focused on its own internal challenges, and the huge differences in the way the problems are perceived from one State to another.

As yet, there is no conflict between these different representations in the political sphere. At most, they can — at times — be in competition. At certain points during the presidential campaign, we saw hints of this type of competition on approaches to climate change. One candidate wanted to focus on energy issues, another on the impact on the most vulnerable populations, a third on the local catastrophes caused by climate change.

The observers consulted see no more structure within American society, nor any polarization in public opinion on climate change. They confirm that there is relatively widespread awareness of the subject, but at the same time report:

- little knowledge of the content, the challenges and the implications contained within the term climate change;<sup>3</sup>
- a wide variation in the “catalysts” that increase Americans’ interest in the subject: health (the example of the Texas town of Riverside), air pollution, acid rain...<sup>4</sup>

Climate change occasionally raises its head in more traditional societal debates. For example, there are references to the consequences of climate change on business activity and earnings: the impact of raw material prices on purchasing power, the impact on US agriculture ... There are occasional references to apparently unconnected societal issues: the supposed impact of global warming on illegal immigration and violence in American cities.

---

<sup>3</sup> Al Gore’s film and book form a central plank in an emerging debate on the implications of climate change and are a vehicle of public awareness.

<sup>4</sup> These questions of pollution were under the spotlight in the 1970s, and gave rise to federal or State laws on the subject.

It is interesting to note that American researchers and observers believe that, by comparison, the issue of climate change is an integral factor in European society (they rarely speak of European societies in the plural). They explain this in two ways, which say a great deal about US perceptions of Europe:

- sociologically, European are more accustomed to listen to, obey and apply the directions given by Governments and public authorities, whereas American citizens are anchored in a culture of individual freedom and are reluctant to accept intervention by state institutions, especially when it affects their lifestyles or behavior;
- economically, European society works on a high tax basis, which has increased gas prices to levels that drive reductions in urban car use. Americans, who are used to paying a few dollars to fill their tanks, are “shocked” by the doubling in price, and would not accept further increases in the cost of car use as a result of further taxation.

**IV- Who are the movers and shakers in the debate on climate change** The premises of the climate change debate are primarily laid down at the intermediate level of the US body politic: economic developers, financiers, researchers, experts, etc. In these “middle structures of society”, we can identify areas of exploration and sometimes debate, where the first outlines of a structured approach to climate change are emerging. These intermediate players are experts, specialists, researchers, business development managers, political advisers... Some of them may fulfill several of these roles at the same time. They maintain a variety of links with the political and social sphere: activists, consultants, lobbyists...

■ At this stage, we can identify five categories of intermediate players involved in the field of climate change:<sup>5</sup>

- **greenbuilders**: people and organizations in the construction world that have adopted an environmental stance. The *US Green Building Council* (<http://www.usgbc.org>) is the most visible part of this highly diverse network of actors, which operates as an organized lobby. They focus, on the one hand, on raising awareness of climate issues among specialists and nonspecialist groups, and on the other hand on encouraging policies and regulations that embody these issues whilst maintaining a positive impact on their economic and industrial interests. In other words, climate change is seen as a (visible) catalyst to their commitment and interest in directing the construction sector towards “environmental quality”;

---

<sup>5</sup> The descriptions that follow provide a brief summary of the approaches of the different categories. They pass rapidly over specific features or complexities in the structure of these categories.

- **local *planners***: planning specialists working with or within cities and counties, this group approaches the question of climate from a perspective of sustainable development and policies that can (or, in their view, will) develop local involvement. Here, climate change is simply one component in the process of spatial, economic and institutional planning to promote sustainable development. Indeed, some consider that climate change has “saturated” current ideas and approaches at the expense of a more holistic approach;

- ***policy makers*** at State and federal level: these are analysts and/or advisers working on policy development for government institutions (health, nutrition, education, environmental protection, less often transportation, etc.). For many of them, climate change has become an important factor in the development of public policy. More than 28 US States have instituted climate plans. These specialists therefore work on the question of their content, implementation and compatibility with other public policy choices;

- ***business developers***: financial players from different sectors: former financial analysts, researchers, business leaders... They have chosen to focus on solutions, in particular technical solutions, that can be deployed to tackle climate change. The largest and most visible financial developments relate to Cleantech. Other sectors appeared to be beginning to pursue financial developments based around climate change: insurance, communication and training.

- ***tech engineers***: these are R&D engineers working on primarily technological solutions to help combat climate change. Based in universities and/or industrial firms, they are distinct from the *business developers* in that their aim is to develop technical solutions and not to exploit them commercially.

- There are few links between the categories.

There are clear connections between the business developers and the tech engineers. The latter move frequently between their specific research field and its economic and financial applications. The approaches are different and sometimes opposed. They need to be analyzed more precisely, looking beyond the general promotional message on Cleantech.

The links between the planners and the public policy specialists are more contingent. For the planners, public policy, in particular State policy, remains weak in the environmental sphere: it offers little support and incentives, and adopts few strict environmental laws. At the same time, they sometimes criticize its excessive focus on climate change, rather favoring a holistic approach to sustainable development.

For their part, the public policy specialists consider that the States have too few powers to intervene significantly on climate change. For example, they have no direct powers on land use or transportation. These matters are decided by the cities or counties. Certain political analysts are proposing institutional reform to give the States powers in these areas.

So a debate is emerging between these relatively distinct groups on the approach to tackling questions of climate change.

On the other hand, at this stage, there is no clear link between public policy and financial developments in Cleantech. We conducted a specific investigation on these links in California, with no results. Apart from the common quest among political leaders and entrepreneurs to promote a global image of the State (innovative, pioneering, etc.), there is no shared strategy of financial exchange or direct economic or political support between the governor of California and Cleantech developers.

**V- A methodical approach to selecting the topics and constructing the debate** In the first lines of this summary, we emphasize the fragmentation in approaches to climate change between the different groups involved and the absence of a unified debate. This being the case, how do we identify the topics for debate and eventually establish a coherent set of issues?

The analysis provided here points to a series of questions that we could consider. However, a decision remains to be made on how to tackle them and, in particular, on the methodological angle that will maintain the coherence of our successive choices over time.

In order to do this, we propose to pursue two intersecting lines of attack:

- our hypotheses about the differences and specificities of the US situations from our French and European perspective. We think that it is important to clarify from the start (and throughout the process) the hypotheses that underlie our curiosity about and our observations of the United States, hypotheses that are inevitably colored by views based on the French and European experience;
- the necessarily incomplete and preliminary questions and debates identified at this stage of our investigation, despite their fragmentary nature.<sup>6</sup> These questions are pre-identified in what we call “Sampling zones”, areas in which the US groups interested in climate change intersect or compete. In this way, the interactions between the two groupings will be demonstrated and rigorously managed: the topics and fields will be chosen with reference to the hypotheses to be explored and, in return, the fields explored in the hearings will be used to readjust and give depth to the hypotheses.

Finally, this methodological approach will help to keep the questions within the scope of IVM’s field of activity. The topics raised by climate change and its handling in the United States are highly varied and stimulating. It will be important to focus on those connected with the themes of the city, territories and mobility.

#### *Initial definition of the hypotheses*

---

<sup>6</sup> This situation may change very quickly in the course of 2009.



For reasons of brevity, we have chosen to present the hypotheses to be explored in the form of a table. This may sometimes simplify matters to an excessive degree, but has the advantage of being relatively practical.

With more detail, this table could become a sort of interactive dashboard providing a regular snapshot of the hypotheses and conclusions in discussion from one session to the next.

<b>European approach</b>	<b>Emerging approaches in the USA</b>
Top-down from international institutions, then national, to local levels	At present, local initiatives and resistance from national bodies.  More complex links: local public and economic players that are taking action but waiting for initiatives from Washington
Primary vehicle of action: public policy	Questions on the role of public policy  Convergence on identifying consumption as a necessary vehicle of public policy
Public policies based on establishing rules and standards	Public policies linking and oscillating between: compulsory standards, incentives and creating the conditions for market involvement
Cities designated as the entities best suited to impose the rules on fragmented groupings (with governments dealing with the big players, in particular industry). Hence the question of integrating climate change into different local regulatory systems.	Cities hesitating between: <ul style="list-style-type: none"> <li>▪ A role in applying the rules to fragmented groupings</li> <li>▪ A role as (joint) market regulator through taxes and incentives</li> </ul>
Regions as the probable spaces and institutions for measuring CO <sub>2</sub> emissions	States pre-nominated as measuring entities, but also as the primary player in stimulating responses to climate change
Industrial sectors required to make little contribution, hence the focus on fragmented groupings through regional authorities (the EU also wants to protect its industries)	

<p>A single target: the individual to apply the rules as a law-abiding citizen and to act in response to social and media pressure.</p>	<p>Targets: the family and local community</p> <ul style="list-style-type: none"> <li>▪ As the crucible of collective morality</li> <li>▪ As the crucible of consumption and consumption models</li> </ul>
<p>A single economic mechanism: CO<sub>2</sub> trading</p>	<p>Indecision and competition between:</p> <ul style="list-style-type: none"> <li>▪ Renewable energy markets</li> <li>▪ A CO<sub>2</sub> market</li> <li>▪ A carbon offset market</li> </ul>
<p>A total focus on reducing CO<sub>2</sub> emissions, without connection to other energy issues</p>	<p>Indecision and competition between catalysts for action:</p> <ul style="list-style-type: none"> <li>▪ Energy independence</li> <li>▪ Geopolitics (China, India, Gulf States, Venezuela and Brazil ...)</li> <li>▪ Impact of energy prices on the middle and working classes.</li> </ul>
<p>Networks of nonprofit groups and lobbies sharing the same interpretation of climate change</p>	<p>Nonprofit groups and networks working with very different aims:</p> <ul style="list-style-type: none"> <li>▪</li> </ul>
<p>A dominant role for mobility in the debate, including the introduction of toll systems. An approach aimed at reducing certain types of mobility and encouraging others, linked with lifestyles.</p>	<p>Very little reference to mobility issues. No frontal approach. An approach that stresses work on transportation methods and mobility.</p>
<p>...</p>	<p>...</p>

An analysis of this table brings out another aspect: the utility of looking at the US lies both in the specificities of the country and in the period it is currently going through and the degree of indecision or action currently apparent in its responses to climate change. At first sight, the situation in Europe seems to be one of stability, with questions of climate change already decided and the methods of response virtually settled. The choice of a principle of a single market in CO<sub>2</sub> emissions illustrates this relatively closed position. A framework for action and decision has been

established: all that apparently remains to be done is to assign pollution rights and set up monitoring bodies. The situation in the United States still seems open. It could remain so for the foreseeable future. On the other hand, the American situation could help us go beyond this initial image of Europe to identify other levers and methodologies for tackling climate change.

Finally, this parallel analysis of the two situations will take us beyond international comparison in order to identify the mutual influences and direct relations between these two situations. For example, the emerging networks of influence and decision in the USA or the economic and industrial sectors taking shape there, could find areas for investment in Europe. Indeed, the North American Cleantech business network is attempting to set up in Europe.

Following this initial research process, several debate outlines were drawn up between October 2008 and January 2009. They are summarized as a working document for development in the presentation that follows. The titles and names are provisional.

The final program will be adjusted to reflect further responses and discussions.

#### S1: One CO<sub>2</sub> emissions market or innovative energy markets?

<b>Subject</b>	How is climate change translated into market form within the economy? Can there be only a single market form?
<b>Questions</b>	Is the cap-and-trade CO <sub>2</sub> market the only possible solution? How does it overlap with existing markets (renewable energy)? Can they coexist and interact? Who would regulate these markets: States, Cities, specialist financial firms?
<b>Sampling zones</b>	RGGI and its cap-and-trade system painfully established by the signatory States  Chicago and the REC exchange
<b>Discussants</b>	LAUDON, Matthew, President and Founding Chair, the Clean Technology and Sustainable Industries Organization (CTSI)  The authors of the <i>Trade-Cap-Market and CER</i> report.
<b>Documentary materials</b>	
<b>Websites</b>	
<b>Other associated events</b>	Circulation of the first design of a CO <sub>2</sub> market by the Federal Energy Agency

	Marseille conference on climate change (UN, IMF ...)
--	--

## S 2: Tackling climate change: who decides?

<b>Subject</b>	Governance in decisions on climate change
<b>Questions</b>	<p>What is the division of roles between institutional levels and what is the degree of local autonomy on this subject? What decision-making methods: public debate, forum, negotiation, etc.?</p> <p>Use of influence and lobbying by:</p> <ul style="list-style-type: none"> <li>▪ Non-profit networks</li> <li>▪ City and State networks</li> <li>▪ Not-for-profit groups</li> <li>▪ Business networks ...</li> </ul>
<b>Sampling zones</b>	The State of California versus counties and cities
<b>Discussants</b>	<p>WHEELER, Steve, Professor, University of California</p> <p>RANDOLPH, John, Professor Virginia Tech</p>
<b>Documentary materials</b>	
<b>Websites</b>	
<b>Other associated events</b>	Concerto conference

S3: Do we need a public policy to combat climate change?

<b>Subject</b>	The organization or reorganization of public policy and interventions by public authorities: methods, limits, resources, scope, etc.
<b>Questions</b>	<p>What degrees of intervention by public authorities in business activity, the lives of individuals, social dynamics? Which public policy areas are involved: environment, health, urban development, transportation?</p> <p>What are the appropriate levers of public intervention: taxation, legal constraints, standards, etc.? How much does it cost to support the energy economy? Should public authorities regulate the allocation of costs and benefits?</p>
<b>Sampling zones</b>	<p>State of California, Marin County</p> <p>City of Boston</p>
<b>Discussants</b>	<p>HINDS, Alex, Marin County Community Development Agency</p> <p>JACOBSON, Thomas, Director of the Institute for Community Planning Assistance at Sonoma State University</p>
<b>Documentary materials</b>	
<b>Websites</b>	
<b>Other associated events</b>	National Climate Plans Conference

S4: Climate change: communication and trust

<b>Subject</b>	The socialization of climate change depends on communication. All the parties communicate to get the idea accepted and to win public trust on a particular aspect: politicians to promote or refute the importance of the subject, Cleantech developers to convince that their solutions are the best, Cleantech financiers to generate confidence in market operators. The battle for image and recognition.
<b>Questions</b>	What are the channels of communication on climate change? Who is communicating? How to recognize green products and solutions and get them recognized? Labels, indicators... Do they exist to measure or to publicize the measurement that creates legitimacy?
<b>Sampling zones</b>	Sustainable SiliconValley City of Portland
<b>Discussants</b>	PATON, Bruce, Silicon Valley Environmental Partnership Professor, San Francisco State University  PATERSON, Robert, Prof, University of Texas at Austin (message receivers and producers in American society)  XXX, Portland
<b>Documentary materials</b>	
<b>Websites</b>	
<b>Other associated events</b>	

S5: Environmental and Cleantech firms do not need territories

<b>Subject</b>	The firms developing clean products and services are often strongly identified with high status territories, such as Silicon Valley.
<b>Questions</b>	Will the link between the Cleantech firms and their territories be broken by the international financial success of their products? What “values” are they looking for in these territories? Is the cluster model more applicable to Cleantech firms?
<b>Sampling zones</b>	Silicon Valley, San Francisco
<b>Discussants</b>	PERNICK, Ron, Chairman and CEO, Clean Edge, Analysis and rating agency for Cleantech firms GUARDINO, Carl, CEO, Silicon Valley Leadership Group
<b>Documentary materials</b>	
<b>Websites</b>	
<b>Other associated events</b>	



S6: Aren't clean technologies the only ones that can (re)start a sustainable economy?

<b>Subject</b>	The promoters of Cleantech solutions present them as the foundation and driving force of future economic development.
<b>Questions</b>	<p>What capacity does the Cleantech sector have to drive the economy, and what are the risks of overheating? <b>Is the new economic model able to create the conditions for the economic success of the Cleantech sector?</b></p> <p>What other development sectors are using climate change as a starting point: communication, insurance,...? Doesn't insurance reverse the perception of climate change: from prevention to adaptation (which is also a business).</p>
<b>Sampling zones</b>	<p>State of Florida</p> <p>Sacramento</p>
<b>Discussants</b>	<p>PERNICK, Ron, Chairman and CEO, Clean Edge, Analysis and rating agency for Cleantech firms</p> <p>MEYER, Peter B, Prof. Director of the consultancy E.P. Systems Group Inc.</p>
<b>Documentary materials</b>	
<b>Websites</b>	
<b>Other associated events</b>	

S7: Transportation and energy: business as usual in the US?

<b>Subject</b>	Transportation is not approached solely from the perspective of limiting the use of the automobile. The approaches are more varied.
<b>Questions</b>	<p>To tackle climate change, do we need to reduce mobility, reorganize travel systems or diversify fuel sources?</p> <p>Who are the key players? What are their respective roles in dealing with CO<sub>2</sub> emissions:</p> <ul style="list-style-type: none"> <li>▪ The States: “incentives and restrictions” or “transportation programs”?</li> <li>▪ Innovation firms: what is the real and economic future for replacement fuels?</li> <li>▪ The cities: continue to manage growing traffic flows or limit and restrict them?</li> </ul>
<b>Sampling zones</b>	New York State and City, San Francisco
<b>Discussants</b>	<p>HEYWOOD, John B, Professor, Massachusetts Institute of Technology, Innovation in the automobile industry</p> <p>WEINBERGER, Rachel, Assistant Professor of City &amp; Regional Planning, University of Pennsylvania</p>
<b>Documentary materials</b>	
<b>Websites</b>	
<b>Other associated events</b>	

## S8: Inequality for all vis-à-vis energy strategies

By energy strategy, we mean both the policies developed by the public authorities and the strategies adopted by companies directly associated with the energy sector.

<b>Subject</b>	The different status of individuals vis-à-vis climate change and the social inequalities generated or reinforced on the basis of the status assigned by the different approaches to climate change.
<b>Questions</b>	What approach to the end user: “get the consumer to buy”, “mobilize the citizen”, “maintain environmental and social justice between citizens”? What would be the consequences if repairing climate change depended on the economic capacity of each individual? Doesn’t the CO <sub>2</sub> market finally result in dividing the cost of CO <sub>2</sub> emissions between individuals?
<b>Sampling zones</b>	San Francisco, New York State, New York City
<b>Discussants</b>	WERNSTEDT, Kris, Associate Professor in Urban Affairs and Planning, Virginia Polytechnic Institute and State University (individuals as targets and consumers)  ANGOTTI, Tom, Professor, The City University of New York
<b>Documentary materials</b>	
<b>Websites</b>	
<b>Other associated events</b>	ADEME – MEDDAD conference on inequalities in access to energy and energy services

## S9: Climate change against the environment and sustainable development

<b>Subject</b>	The contradictions and competition between the groups involved in the environmental cause: trying to reduce climate change can, for example, entail using more natural resources to produce biofuels, creating potentially dangerous and polluting facilities to store energy, promoting nuclear power, etc.
<b>Questions</b>	What are the trade-offs between the constraints associated with dealing with CO <sub>2</sub> emissions and other environmental problems? What are the forces behind these different problems? What are the alignments within the world of nature protection (activists and institutions) in the USA vis-à-vis these contradictions?
<b>Sampling zones</b>	California New Jersey
<b>Discussants</b>	ANDREWS, Clinton, Penn State University SCHOCHTMAN, Judd, New Jersey University
<b>Documentary materials</b>	
<b>Websites</b>	
<b>Other associated events</b>	

## **Relevant bibliography**

### **Most frequent references**

McDonough W. Braungart W., 2002, Cradle to cradle, Remaking the way we make things, North Point Press, 193 p.

Lester R. Brown, 2001, Eco-Economy: Building an Economy for the Earth, Earth Policy Institute, 334 p.

Lester R. Brown, 2007, Plan B 3.0., Mobilizing to save civilization, Earth Policy Institute, 392 p.

Al Gore, 2007, Our Purpose, Rodale, 60 p.

### **Critical writings**

Jaccard, M. 2005, Sustainable fossil fuels, Cambridge University Press, 381 p.

Eckstein B., 2003, Throgmorton, J., Story and sustainability, MIT, 267 p.

Ingersoll, R., 2006, Sprawltown. Looking for the City on Its edges, Princeton architectural Press, 182 p.

### **Cleantech**

Vaitheeswaran V.V., 2003, Power to the people, Farrar, Straus and Giroux books, 358 p.

Pernick R., Wilder C., 2007, The Cleantech revolution, Collins, 308 p.

Daniel C. Esty and Andrew S. Winston, 2006, Green to Gold: How Smart Companies Use Environmental Strategy to Innovate, Create Value, and Build Competitive Advantage Yale University Press 384 p.

Rubino, John, 2008, Clean Money: Picking Winners in the Green Tech Boom , Wiley, 256 p.

Jack Uldrich, 2008, Green Investing: A Guide to Making Money through Environment Friendly Stocks, Adams Media, 272 p.

Richard W. Asplund, 2008, Profiting from Clean Energy: A Complete Guide to Trading Green in Solar, Wind, Ethanol, Fuel Cell, Carbon Credit Industries, and More, Wiley 370 pages

Candice Reed, 2008, City cultivates alliances to grow clean-tech businesses: economic division promotes 'green enterprise' with EDC, Connect cooperation. In San Diego Business Journal, June 18, 2007, 25 p.

### **Climate change: initiatives, public policies...**

Thayer, R. L., 2003, *LifePlace, Bioregional Thought and practice*, University of California Press Berkeley, 300 p.

Melosi, M., Pratt, J. A., 2007, *Energy Metropolis, An environmental history of Houston and the Gulf Coast*, University of Pittsburgh Press, 334 p.

Heywood, J.B., and Sher, E., *The Two-Stroke Cycle Engine: Its Development, Operation, and Design*, 451 pages, Taylor and Francis, 1999.

Heywood, J.B., Weiss, M.A., Schafer, A., Bassene, S.A., and Natarajan, V.K., "The Performance of Future ICE and Fuel Cell Powered Vehicles and Their Potential Fleet Impact," SAE paper 2004-01-1011, SAE 2004 World Congress & Exhibition, Detroit, MI, March 1-5, 2004.

Ivanic, Z., and Heywood, J.B., "Predicting the Behavior of a Hydrogen-Enhanced Lean-Burn SI Engine Concept," SAE paper 2006-01-1106, presented at the SAE 2006 World Congress, Detroit, MI, April 3-6, 2006.

Bandivadekar, A., and Heywood, J.B., "Coordinated Policy Measures for Reducing the Fuel Use of the U.S. Light Duty Vehicle Fleet," in Sperling, D. and J. Cunniff (editors) *Driving Climate Change: Cutting Carbon from Transportation*, Elsevier, Burlington, MA, 2006.

Stephen Wheeler, *Planning for Sustainability: Toward Livable, Equitable, and Ecological Communities*. 2004. London and New York: Routledge.

*The Sustainable Urban Development Reader*, Edited by Timothy Beatley and Stephen Wheeler. 2004. London and New York: Routledge.

Meyer, P.B., R.H. Williams and K.R. Yount. 1995. *Contaminated Land: Reclamation, Redevelopment and Reuse in the United States and the European Union*. Cheltenham, UK: Edward Elgar Publishing, Ltd.

Berkeley, CA, City of. 2008. *Climate Action Plan--January 2008..*

Bezdek, R. 2007. *Renewable Energy and Energy Efficiency: Economic Drivers for the 21st Century*. Boulder, CO: American Solar Energy Society.

Eriksen, S.E.H., et al. 2007. *Climate Change Adaptation and Poverty Reduction: Key Interactions and Critical Measures*. Oslo, NO: University of Oslo.

Berkeley, CA, City of. 2008. *Climate Action Plan--January 2008..* Bezdek, R. 2007. *Renewable Energy and Energy Efficiency: Economic Drivers for the 21st Century*. Boulder, CO: American Solar Energy Society.

Eriksen, S.E.H., et al. 2007. *Climate Change Adaptation and Poverty Reduction: Key Interactions and Critical Measures*. Oslo, NO: University of Oslo.

Ewing, Reid, Keith Bartholomew, Steve, Winkelman, Jerry Walters, and Don Chen, with Barbara McCann and David Goldberg (2007) *Growing Cooler: The Evidence on Urban Development and Climate Change*. Washington, DC: Urban Land Institute.

City of Seattle (2006). *Seattle, a Climate of Change: Meeting the Kyoto Challenge*. Seattle, Washington.

Stone, J., Brian. (2005). .Urban Heat and air pollution: an emerging role for planners in the climate change debate.. *Journal of the American Planning Association* 71(1): 13-25.

U.S. Mayors' Climate Protection Agreement Climate Action Handbook. Oakland, CA: International Council for Local Environmental Initiatives.

IPCC National Greenhouse Gas Inventories Programme. (2006). *2006 IPCC Guidelines for National Greenhouse Gas Inventories*. Japan: Institute for Global Environmental Strategies.

U.S. Environmental Protection Agency. (2007). *Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2005*. Washington D.C.: U.S. Environmental Protection Agency.

Adger, W. N. 2003. Social Capital, Collective Action, and Adaptation to Climate Change. *Economic Geography* 79 (4):387-405.

Bulkeley, Harriet, and Michele M Betsill. 2005. Rethinking sustainable cities: Multilevel governance and the 'Urban' politics of climate change *Environmental Politics* 14 (1):42-63.

Zahran, Sammy, Samuel D Brody, Arnold Vedlitz, Himanshu Grover, and Catilyn Miller. 2005. Explaining local commitment to climate change policy in the United States.

Bulkeley, Harriet, and Michelle M. Betsill. 2003. *Cities and Climate Change: Urban Sustainability and Global Environmental Governance*. London: Routledge.

Lerch, Daniel. 2007. *Post Carbon Cities: Planning for Energy and Climate Uncertainty*.

Sebastopol, CA: Post Carbon Institute. Lewis, Megan, Naomi Friedman, and Lynn Ross. 2006. *The Role of Planning in the New Energy Era: Results of a Survey*. American Planning Association, <http://www.planning.org/energy/06mar/>,

Gill, S., Handley, J., Ennos, R. and Pauleit, S. (2007) *Adapting cities for climate change: The role of the Green Infrastructure*, *Built Environment*, 33(1): 115-133.

Pacala, S. and R. Socolow. (2004). *Stabilization wedges: solving the climate problem for the next 50 years with current technologies*. *Science*. 305: 968-972.

Rabe, Barry G. (2002). *Greenhouse & Statehouse: The Evolving State Government Role in Climate Change*. Arlington, VA: Pew Center on Global Climate Change.

Lange, A., C. Vogt and A. Ziegler. 2006. "On the Importance of Equity in International Climate Policy: An Empirical Analysis." Center for European Economic Research, Discussion Paper No. 06- 042.

## **Websites**

Business and climate change

[Chicago Climate Exchange](#)

[Clean Edge - The Clean-Tech Market Authority](#)

[Clean Technology and Sustainable Industries Organization CTSI](#)

[Clean Technology Investor - Dow Jones Financial Information Services](#)

[Climate Counts - About Us](#)

[ClimateBiz - News on Business, Climate, Carbon Offsets, Carbon Standards and Greenhouse Gas Emissions](#)

[frontline blackout the new new power business inside energy alley PBS](#)

[GreenBiz.com - Daily News on Green Business, Business and Climate Change and Sustainable Business Practices](#)

[GreenMoney Journal](#)

[Ignite Clean Energy Learn. Network. Win!](#)

[Leonardo Academy Home](#)

[New Energy Finance 3.0](#)

[Sustainable Industries](#)

[Synergy International Incorporated Global energy and environmental design](#)

California

[CALIFORNIA CLIMATE CHANGE CENTER](#)

[Welcome to the California Climate Change Portal](#)

Communities

[Home Greenopolis](#)

[Renewable Energy, The Forefront Of Technology](#)

NY

[PLANYC 2030 - Download Report](#)

[Earth Policy Institute,](#)



[Biofuel Cities - A European Partnership](#)

[Carbon Capture - Cleantech News - Clean Technology](#)

[Clean Edge - The Clean-Tech Market Authority](#)

[Clean Technology 2008](#)

[Cleantech Blog Cleantech vs. Greentech](#)

[Cleantech Network™ - Washington D C Forum](#)

[Climate Change U.S. EPA](#)

[ere Green Power Network Home Page](#)

[Energy & Climate - ENVIRONMENT Protecting our natural resources - America.gov](#)

[EPA-International Best Practices & Innovations-Urban Management, Sustainable Development & Smart Growth](#)

[EU Energy Policy Blog](#)

[France-Orée](#)

[Greener Buildings - News on Green Buildings, Green Architecture, Green Cities and Facilities Management](#)

[Home - REEEP - The Renewable Energy and Energy Efficiency Partnership](#)

[http--letg.univ-nantes.fr-COLLOQUE-pdf-C3\\_0405\\_MARTINS.pdf](http://letg.univ-nantes.fr-COLLOQUE-pdf-C3_0405_MARTINS.pdf)

[http--www.recherche-innovation.equipement.gouv.fr-IMG-pdf-ss.gr.PROSP.AUTO\\_cle18c11e.pdf](http://www.recherche-innovation.equipement.gouv.fr-IMG-pdf-ss.gr.PROSP.AUTO_cle18c11e.pdf)

[International Association for Energy Economics Book Reviews](#)

[ISOCARP Case Study Platform](#)

[ISOCARP Congress 2008 Home](#)

[RECS - The Renewable Energy Certificate System](#)

[Regional Greenhouse Gas Initiative \(RGGI\) - Working Groups](#)

[Renewable Energy Certificates - Wikipedia, the free encyclopedia](#)

[Sapiens](#)

[Sustainable Industries Clean Energy](#)

[U.S. Cities, States Working To Slow Climate Change](#)

[UM Civil and Environmental Engineering Faculty Profiles Peter Adriaens](#)

[Urban-net - URBAN-NET - Supporting urban sustainability research in Europe](#)

[usgbc LEED for Neighborhood Development](#)