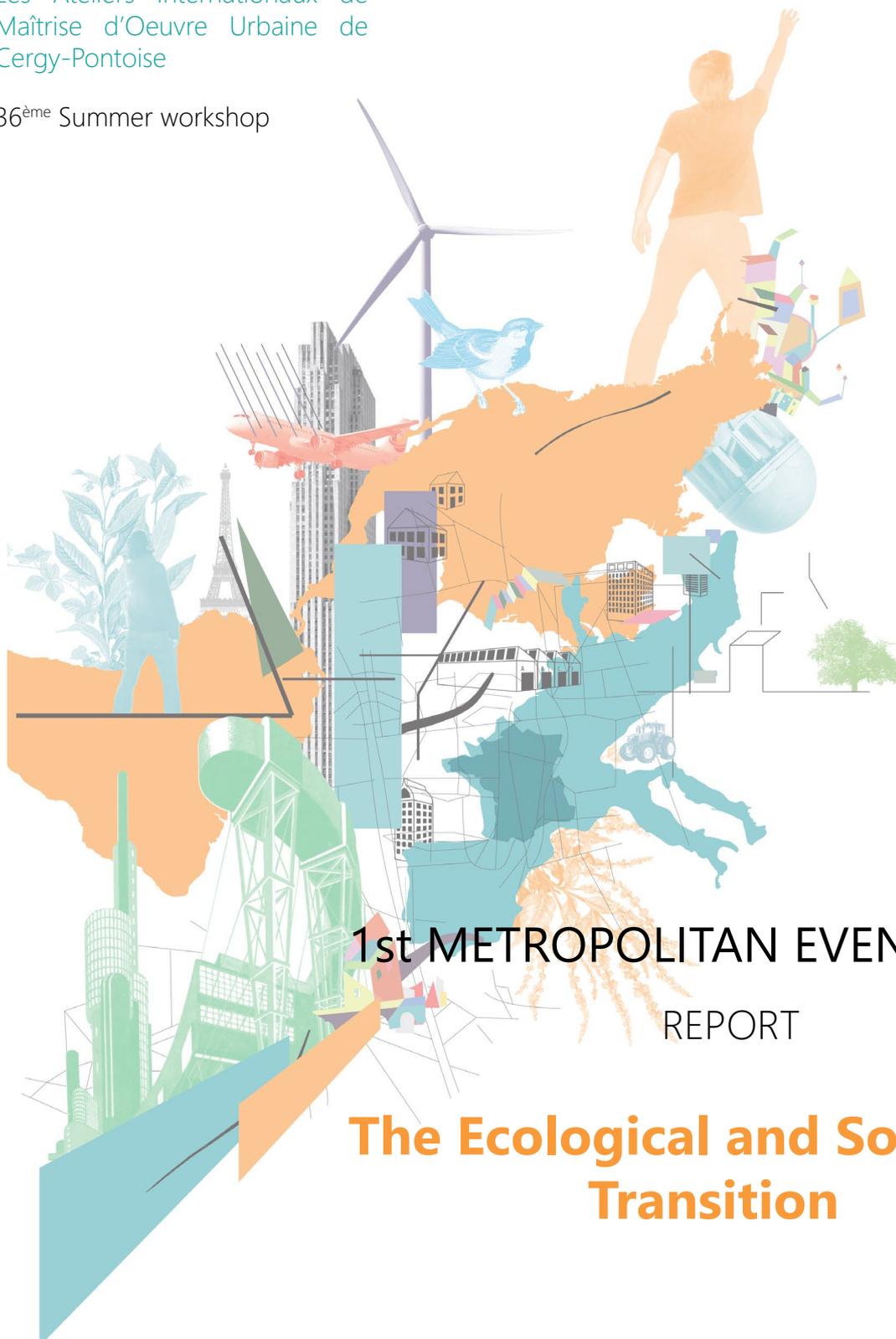


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Les Ateliers Internationaux de
Maîtrise d'Oeuvre Urbaine de
Cergy-Pontoise

36^{ème} Summer workshop



1st METROPOLITAN EVENING EVENT

REPORT

The Ecological and Solidarity Transition

Partners of the workshop :



1st METROPOLITAN EVENING EVENT

The Ecological and Solidarity Transition

8th of February, 2018

PROGRAM

Introduction by Jean-Michel Vincent (Les Ateliers, former strategy and sustainable development director for the Île-de-France)
· Video projection of interview clips with Jean-Marc Jancovic (engineer at École Polytechnique; consultant, professor and founder of Carbone 4) and Ritt Bjerregaard (former mayor of Copenhagen) ·

Presentations by Yann François (Head of climate, energy and circular economy strategies for the City of Paris, whose projects include the city's Climate Action Plan); Julien Dossier (founder and director of Quattrolibri, a consulting firm specializing in low-carbon territories and companies); André Joffre (CEO of Tecsol, a consulting firm specializing in photovoltaic electricity production; chairman of the Perpignan solar competitiveness cluster); and Mathieu Rivat (author of *Ces maires qui changent tout*; member of a SCOP that advises work councils) · Q&A with the audience

INTRODUCTION

The world's middle and upper classes hold their fates in their hands

Jean-Michel Vincent

Global warming is not a theory but a fact. The correlation between the growth curves of the world's population, CO₂ emissions and those of energy consumption around the globe since 1750 is illuminating in this respect. Emissions accelerated in the 1950s, the date of the first CO₂ concentration measurements taken at the Mauna Loa Observatory in the Pacific. The monitoring system shows that if the rate at which we emit CO₂ into the atmosphere continues, the concentration threshold of 415 ppm, which triggers a 1.5°C increase, will, according to the IPCC, be reached by 2020; while the 450 ppm threshold, which triggers irreversible effects of global warming, will be reached by 2030.

According to Jean Jouzel, climatologist and former vice-president of the Intergovernmental Panel on Climate Change, an inversion of the greenhouse gas emissions curve must take place by 2020 if we want to maintain the global temperature at 2°C above that of 1750, the symbolic start of the industrial era.

Who are emitters, how are they emitting and where? Eighty percent of greenhouse gases are emitted by the world's middle and upper classes, or 2 billion of the world's 7.5 billion people. Three-fourths of emissions are due to fossil fuels, used by those with means; while the remaining quarter comes from deforestation caused by, for example, the cultivation of soybeans, which feed cattle as well as the world's middle and upper classes, who tend to be avid meat eaters. Eighty percent of greenhouse gases are generated by cities, where they are most concentrated.

The world's middle and upper classes, those who live on more than \$10 a day per person, hold their fate in their own hands, but also those of the others around them.

Full article available at <http://agirlocal.org/la-vie-au-xxi-eme-siecle/>

INTERVIEW CLIPS

A challenge unprecedented in human history

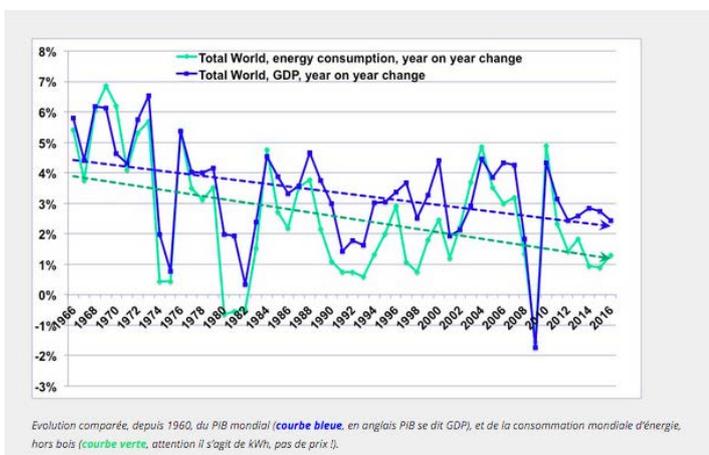
Jean-Marc Jancovici

Jean-Marc Jancovici designed ADEME's carbon accounting system, now a greenhouse gas assessment system, which allows territories or companies to calculate their carbon footprint.

He noted that 80% of the energy mix comes from fossil fuels, which rounds out to 30% oil, 30% coal and 20% gas. The energy source whose consumption has increased the most in the last 10 years is coal, which emits the most energy per kWh supplied. If nothing changes, and despite COP21, fossil fuels will continue to comprise the overwhelming majority of the energy mix for the next 10 years.

He pointed out that the economy to date is based on physical flows created through energy production. A decrease in energy consumption would therefore mean a reduction in the number of machines requiring the energy, i.e. machines on which almost all jobs depend. We have so far been unable to reduce energy consumption without also contracting the economy. The political consequence is the emergence of populist movements. Stimulus policies that ignore this state of affairs are futile.

Full interview available at <https://thinkerview.com/jean-marc-jancovici-anticiper-leffondrement-energetique/>



The role of metropolitan areas: The example of Copenhagen

Jitt Bjerregaard

Ritt Bjerregaard, mayor of Copenhagen from 2006 to 2010, explained how the failure of COP15, which was held in Copenhagen in 2009, led the city and its inhabitants to work together to significantly reduce pollution emissions. By 2015, the reduction target for 2020, which had been set in 2012, had already been achieved. Therefore, the city has since decided to become carbon neutral by 2025. It is on route to succeed. For Ritt Bjerregaard, the city's bold ambition is the result of the osmosis between determined inhabitants and attentive politicians. Take for example the current mayor, Frank Jensen, who comes to town hall by bike; his actions encourage citizens to do the same.

Scandinavians see the environment as an important factor in the quality of life, and a better quality of life as a growth factor. The culture of compromise and consensus in Nordic countries allows for efficiency and rapid decision-making. Highly efficient, these metropolitan policies also have the virtue of being clear and readily understood by inhabitants, which encourages the latter to adapt their lifestyles.

Full interview available at <https://www.c40.org/profiles/2013-copenhagen>

PRESENTATIONS

How can concrete changes be made to the metabolism of a metropolis whose real borders extend far beyond its administrative borders? With whom, and how?

Yann Françoise

Following the COP 21 in Paris, a thousand mayors assembled by Anne Hidalgo committed themselves to carbon neutrality by 2050 and, in particular, to the reduction of 80% of their cities' emissions.

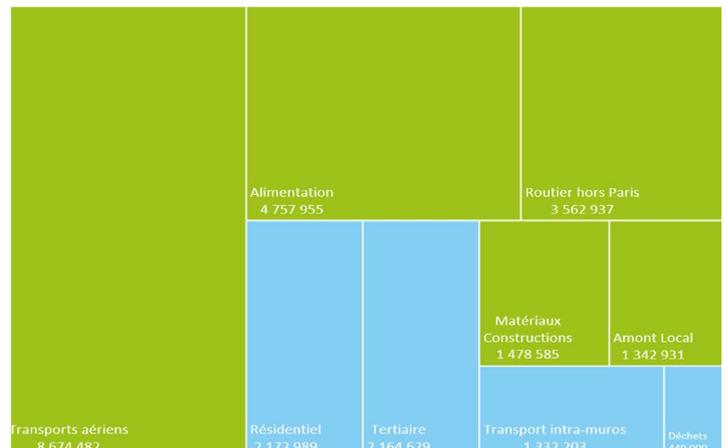
What does zero carbon mean for a city like Paris? Each city has its own definition: 100% renewable energy for Vancouver; almost zero energy from fossil fuels for Stockholm and Oslo; and net zero emissions for London, whose plan is to minimize emissions and offset the rest through the purchase of carbon credits.

The Parisian carbon footprint is based on emissions not only within Paris but also outside of it: direct intramuros emissions (e.g. residential, tertiary, waste and transport activities within Paris) account for a quarter of the total; while indirect emissions, generated extramuros by the needs and activities of Paris and its visitors (e.g. air transport being the most dominant, but also food, road transport for people and goods outside of Paris, construction materials, energy utilities) account for the other three quarters.

As for the carbon footprint of the Parisian local government, which can be determined directly by elected representatives, it only accounts for 2% of these emissions. Therefore, to achieve the objective of zero emissions, it would mean going well beyond a simple catalogue of measures and declarations of commitment over making this issue into social project. Changing or updating buses and improving the insulation of social housing in Paris will not be enough to meet the challenge of climate change: what is vital is changing practices and lifestyles, both inside and outside Paris.

The Paris Climate Action Plan, adopted on 22 March 2018, takes into account all emissions linked to Parisian usages, including imports. As a result, elected officials have made the Paris Climate Action Plan into a social project: zero carbon emissions, but also a fair, inclusive, breathable and resilient city by 2050; with an interim objective set for 2030.

One of the first priorities therefore concerns air quality, a major concern for Parisians. As a result, diesel fuel will be banned in Paris by 2024 and petrol and fuel oil by 2030. Greater Paris also seems to be heading in the same direction. The target in terms of energy, and therefore emissions, requires reducing energy consumption by half to be able to convert to 100% renewable energy, 20% of which would be produced locally.



In this context, the Climate Action Plan has a dual objective:

By 2030, a 50% reduction in GHG emissions, a 35% reduction in consumption and a target of 45% for renewable energy
By 2050, zero greenhouse gas emissions within Paris and an 80% reduction in Paris's carbon footprint based on a 100% share of renewable energy

By 2050, the remaining 20% of residual emissions will be offset financially. Eventually, this will cost €7 billion a year, with a view to opening up cooperation with peri-urban and rural areas.

Full document available at <https://api-site-cdn.paris.fr/images/100009>

How can we be efficient in the time that remains?

Julien Dossier

Warming Warning, an English documentary produced in 1981, and a World booklet published on 29 January 1981 by ADEME already pointed out everything that Al Gore's two films strove to show (2006 and 2016). And today, some thirty-seven years later, we remain in a state of dismay.

This already protracted debate raises questions about how we can take action in the time that remains.

For example, the decision to ban diesel and gasoline vehicles in Paris means that some 300,000 vehicles will have to be resold or abandoned. Will they be sent to the junkyard? To other regions? To Africa? Meanwhile major industrial groups are still counting on a full-scale production of vehicles, and they continue to sell massive numbers of the vehicles they make: our economic model is out of step. We must think differently about our industrial apparatus to allow for the transformation and reuse of internal combustion engines for other uses. Such a change to the economic model requires a massive shift in consciousness, culture. It would require a cultural revolution.

It would have to be a revolution akin to the Renaissance and Industrial Revolution, combined; that would need to be achieved in 394 months, or 4 times less time. The example of the Paris Climate Action Plan speaks for itself. Part of the population remains hostile to its message, or is burying its head in the sand. This is due especially to the fact that the message is so complex—slow to write and long to read.

One of the keys to the problem lies in the narrative. The problem is how to create a message that is easy to understand as well as the tools for sharing convictions: for example, it is impossible to think about pure air in Paris without thinking about pure air in the neighbouring wind-swept countryside.



A participatory and inclusive narrative

Such a narrative led to the updating of a Renaissance fresco on display in the Siena City Hall: it portrayed an urban landscape and its agricultural hinterland, in which all aspects of life were represented. Painted in 1338 to reflect an ideal vision of the «good governance of the city and the countryside», i.e. its title, it offers a simple image of the city as a system. Modernized, it has enabled citizens to understand the need to act on 24 projects at the same time. For example two riders on horseback became carpoolers. When looking at this great fresco, people create and collaborate to propose their own vision of the post-carbon city of 2050 and thereby understand the need for action.

This tool has been successfully tested with local schools and the HEC business school, the inhabitants of Jouy-en-Josas, les Mureaux, Versailles, EDF executives and post-oil landscape experts. Knowledge is disseminated through participatory and creative, collaborative means. The resulting storyline varies depending on the urban cultures and populations; however, it always remains a shared vision with a bottom-up approach.

It serves to communicate and initiate the transition with every individual. For the people who have taken the time to embrace the subject, it inspires them to embark on the path of becoming a zero-carbon city by 2050 and to act where they live.

Detailed document available at <https://bit.ly/2JcK00N>

Where does the solar industry's economic model stand?

André Joffre

After the first stage of the Industrial Revolution, brought about by coal and rail, the second by oil and cars, and the third by semiconductors and nuclear power in 1969, we are now entering the fourth stage with digital technology and renewable energy.

The consistent drop in the price of solar panels in €/Wp, the installed capacity, is a good indicator of the extent of the solar business model. On a global scale, while fossil fuels will still be highly used in 2030 and the share of nuclear energy will remain low, photovoltaics will explode: at its current rate of growth, the global photovoltaic production's installed capacity this year is the equivalent of France's peak energy consumption on a harsh winter night and will double by 2023. There is a simple reason: silicon is not a rare commodity but a common material found everywhere. Its refining is all the more economical when produced in large volumes.

Fifteen years ago, the Chinese decided that solar energy was a strategic investment; they spent \$90 billion to set up an industry with directors whose typical profiles consisted of a Ph.D in physics, an MBA from Harvard, and a stint on Wall Street. Today, 9 of the world's 10 largest producers are Chinese.

Technological innovations for new applications

In France, we are moving from a development model based on the direct resale of energy to EDF to a self-consumption system where only the unconsumed surplus is resold, which is more complicated but no longer dependent on subsidies.

A host of innovations will enable a more varied, intelligent and efficient use of solar energy.

For example, grouped self-consumption is a partial solution to the question of the electricity surplus, which today limits the development of solar energy: EDF must buy back the surplus and pass it through the grid. Sharing the electricity surplus between neighbours (housing, public facilities, offices) can already partially absorb this surplus; in the future electric car batteries will store this surplus for deferred use, and possibly even transport it to the office.

As for blockchains, encrypted and distributed information which do not require a trusted authority, they will make it possible to certify the measurements of consumption between neighbours and thereby control invoicing. Cloud computing, which does not allow for any physical storage, will also be a way to distribute the supply of solar electricity during the day. For instance, depending on your own needs, any surplus at the time would be sold to your energy supplier.

Tescol blog, available at http://tecsol.blogspot.com/mon_weblog/

Ces maires qui changent tout [Mayors Who Change Everything]

Mathieu Rivat

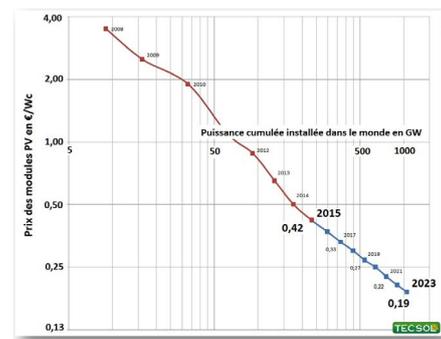
At the behest of the publisher Actes Sud, Mathieu Rivat met with the mayors and local actors of six communes that had demonstrated how a strong will for change made it possible to develop ecological and solidarity transition projects: 2 villages, 2 small towns, 2 large towns. The project was based on two elements. The first was the general belief that municipalities are seen as institutions which, in the best of cases, subsidize or, in the worst, hinder citizens' initiatives. The second was the state of paralysis demonstrated by national governments. Given these two factors, the ambition was to show the relevance of the municipal level in actively implementing ecological and solidarity transitions by working as closely as possible with inhabitants; while not claiming to be exhaustive.

Tremargat, in the centre of Brittany, saw its population drop from 200 inhabitants in 1950 to 100 in 1990, the year in which the counterurbanizers who had gradually settled there beginning in the 1970s decided to assume responsibility for the town hall, with the consent of the former inhabitants. Promoters of responsible agriculture, this small group organized projects around sustainability and the collective community. They took over the bar, which was for sale, to turn it into an association that hosted young farmers, followed by another project with the grocery store, and then the decision to maintain control of the land to welcome new farmers. They operate in a mode similar to a self-managing system. When the mayor speaks, he always makes reference to the collective community. The town has «theorized a democracy that lasts».

In Puy Saint-André, in the Hautes-Alpes, the mayor set up a Société d'Economie Mixte [semi-public company] with private funds from residents, local authorities and SMEs, so that solar panels could be installed in the commune. They are installed on the roofs, a roundabout, but not the ground. Since it is financed through participatory, collective funding, the company's activity has been extended to include the entire Hautes-Alpes department.

The mayor of Ungersheim, in Alsace, began to think about the post-oil era by way of food and agriculture. For example, he reclaimed fallow parcels of land threatened by the installation of shopping centres and dedicated them to market gardening, with the motto «from the seed to the plate». Today, the project supplies the municipal cafeterias, with any surplus being processed in a cannery. The commune also bought land in order to employ a municipal employee to run a farm on it. As part of Rob Hopkins' Transition movement, Ungersheim has gone on to set a goal for itself of becoming energy self-sufficient by 2023, including its industrial sector.

Loos-en-Gohelle, a Pas-de-Calais town marked by the abandonment of its mine and poverty, has demonstrated that solutions to ecological and social issues can be mutually beneficial. Among others, one of the actions concerns the rows of coronas lining the streets. These semi-detached cottages that had previously been provided for free as homes for miners, are now inhabited by families living in extreme fuel poverty (e.g. no insulation, coal heating). The mayor, a former trade union delegate, carried out an energy upgrade by involving the inhabitants in the development of the project and in the decisions: a neighbourhood council was created but also financing projects at the initiative of the inhabitants that the mayor calls fifty-fifty. This approach was theorized under the name stem cell on questions like: How do we lead change? How do we engage people? How can a distant objective make people want to do something? How can small seeds be sown that produce quick, visible results? And how can a committed collective be maintained, whose engagement does not wane over time.



Price of the solar panel (€/W) related to the energy available on earth

Q&A SUMMARY

The ecological and solidarity transition, a bottom-up and top-down policy

While the Territorial Climate Action Plan is one of the most effective tools for developing territories in ecological transition, it is important to remember that all territorial scales are linked: the impulse to push certain polluting activities farther back or to calculate their impact within defined borders is futile. In this respect, the Paris Climate Action Plan is exemplary: it takes into account the negative externalities of individual activities and behaviours that trigger emissions outside municipal borders. The interlocking of scales—world, countries, regions, departments, municipalities, communities, housing—with mechanisms of solidarity between territories seems obvious and essential.

The introduction of relationships of solidarity and mutual dependence in territories and at different scales is key to changing economic policies in the ecological and energy transition.

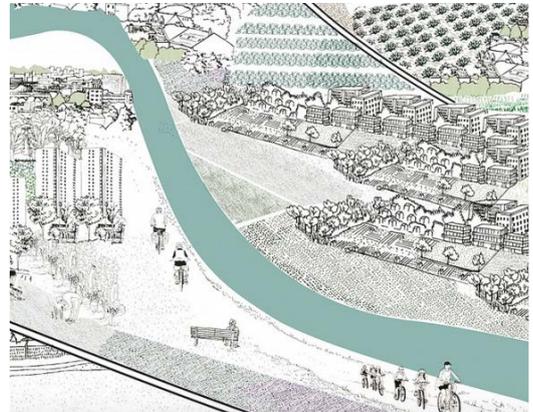
Another name for this systemic approach is territorial metabolism, which can be more readily understood as it also extends to local production and consumption, and the inflow and outflow of people, goods, knowledge and money in a territory. On both a small and large scale, it offers a simple approach, accessible to everyone and therefore appropriate for addressing problems and finding solutions.

Influencing behaviour: A cultural challenge

Half of greenhouse gas emissions are attributable to behaviour, regardless of the policies implemented. And foreseeable developments are problematic to say the least. Taking a weekend flight for a short trip is still a marker of social success. This tendency will lead to an explosion in air traffic over the next thirty years. Similarly, it is now accepted as normal to have exotic fruit in even the most basic grocery stores throughout the year and steak is a standard in all Parisian brasseries. So how can we change such behaviours that weigh so heavily on our carbon footprint?

How can the importance of this cultural change be made obvious?

By incorporating the great avatars of clean energy into the landscape: wind turbines, solar panels, as proposed by the Post-Oil Landscapes association. By installing a thermometer on the Eiffel Tower that shows a countdown of the emission threshold before 450 ppm, the trigger for irreversible effects of global warming, is reached. By broadcasting and disseminating stories of the transition to a carbon-free world, that is shared and experience by everyone.



The acceptance to make lifestyle changes depends on such proposals, starting with the installation of a wind turbine in the wide open or the building of a commercial warehouse near your home for what professionals call last mile logistics.

Addressing the ecological and inclusive transition, one by the other

The ecological transition highlights inequalities: inequalities between citizens, inequalities between territories, whether it be fuel poverty or, more generally, the capacity to implement the transition. This can be seen with the most modest populations, who, without alternative means of transportation in the suburbs, must resort to second-hand, third-hand, polluting cars. Faced with the ban in Paris on diesel vehicles in 2024 and gasoline in 2030, they will not have the means to invest in a new car to go to work. Paying special attention to them is vital. It is not enough for the industrial discourse to show clean vehicles as only new, luxury, electronically packed and self-driving. A low-carbon, affordable, low-tech mobility adaptation sector still needs to be created if transition and inclusion are to be achieved.

Solidarity between territories is just as important. Equalization already exists: Paris finances part of the Greater Paris Express for the suburbs. Creating a Climate Action Plan on the scale of the entire metropolitan area would reveal other needs and other opportunities: for example, buses with a high level of service on motorways and carpooling organized on a regional scale. Conversely, the main attribute of the suburbs is that they are less dense than Paris and rich in green spaces: they offer a formidable space to conduct an ambitious housing policy and experiments of all types in terms of employment and leisure as proposed in the post workshop on the future of business parks.

Full document at https://www.ateliers.org/media/workshop/documents/post-atelier_un_nouveau_regard_sur_les_zones_activites.pdf

Les Ateliers Internationaux de Maîtrise d'Oeuvre Urbaine de Cergy-Pontoise

36th Summer workshop

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