

pollutec

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DE LA TRANSITION
ÉCOLOGIQUE

paris



PRESSE KIT POLLUTEC PARIS 2024



CONTENTS

I - Editorial

II - Pollutec in numbers

III - Exhibitors

IV - Spotlight on trends in flagship sectors at the show

V - Current challenges addressed at Pollutec Paris

VI - Highlights

A - La Tribune

B - Major players in ecological action

C - Down to Earth, The expo (*new*)

D - Leaders' breakfast (*new*)

E - Pollutec Innovation Challenge

F - Talent Hub, an area dedicated to jobs and training

VII - Our partners

VIII - Practical information

A - Map

B - Dates and location

C - Access



I. EDITORIAL



Pollutec Paris will provide a new space for the extensive environmental sector to meet and exchange ideas, in a more compact, biennial format in Paris. It will be a gathering dedicated to understanding current challenges, finding solutions and taking action.

Designed as an economic accelerator, Pollutec Paris aims to unlock both the understanding and the technical knowledge needed to address these key concerns for the European and French business communities, and to support their ecological transition.

This new sister event to Pollutec Lyon has been created to make the European Green Deal, and the changes it will require, more tangible and accessible. As a partner to the business community, Pollutec Paris will be focusing on the challenges faced by companies in the environmental sector, such as how to comply with regulations while remaining competitive. There will also be a particular focus on managing re-industrialisation, as well as on adapting the finance needed.

Reflecting the increasing regulations and the urgency of the climate crisis, Pollutec Paris echoes the challenges highlighted in Mario Draghi's recent report to the European Commission (which will be presented at the show) on the future of European competitiveness. This programme will require annual finance of €750–800 billion, largely from private sources.

For the Paris edition of the show, we have chosen four central themes for the business community. The first is finance, so we can gather private stakeholders from the sector around the table to discuss the major trends and solutions of the industry. The second is regulation, approached in line with the roadmap by the new Commissioner for a Clean, Just and Competitive Transition, Teresa Ribera, who is aspiring to ensure “green reindustrialisation” in the European Union. The third theme is the resources – traditionally a central focus of the show – and eventually, employment and training, major topics given the high demand for skills to carry out these transformations.

This 2024 edition promises a wealth of experiences, discussions and solutions. It was only made possible through the conviction and collective commitment of the community to whom we are extremely grateful: our exhibitors for their loyalty, the newcomers for their trust, our institutional partners for their support, the media for their continued interest, and finally the teams from RX France for their investment in creating and bringing to life this new Paris event.

Anne-Manuèle Hébert, Director of Pollutec Paris & Pollutec



II. POLLUTEC IN NUMBERS

Pollutec Paris, a new biennial event dedicated to environmental solutions for industry, cities and regions, will be held at Paris Expo, Porte de Versailles, on 26 and 27 November 2024.

Designed to complement the Lyon show, it reflects the urgency of the climate change and the need to accelerate innovation.

The event aims to bring the business community together to explore practical solutions at this time of ecological transition.

300

Exhibitors, 70% of them international and almost half new to Pollutec

6000

Participants expected

35

Conferences

43

Exhibitor workshops

11

Workshops



III. EXHIBITORS

Pollutec Paris is a complementary event to Pollutec. It provides an agile business platform where environmental professionals can get in touch with new markets, receive information about regulations and identify potential financial partners to drive the ecological transition.

The format of Pollutec Paris offers close proximity to other regions in northern Europe, while also hosting all 11 major sectors attending the Lyon show, to provide the same holistic approach to environmental challenges.

More than 300 exhibitors, 23% of them international, ranging from promising start-ups to large established companies, will be there to display their most innovative solutions. Visitors will have the opportunity to learn about cutting-edge initiatives in a variety of fields, demonstrating the expertise and ambition of those driving the ecological transition.



Water management



Waste management



Energy & Efficiency



Sustainable cities & buildings



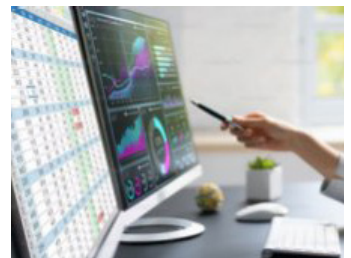
**Contaminated sites
and soils**



Air quality, Odours, Noises



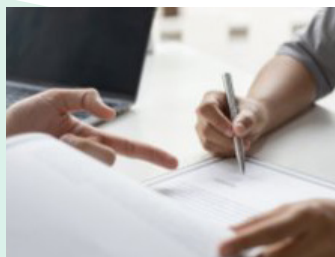
**Instrumentation,
Metrology, Analysis**



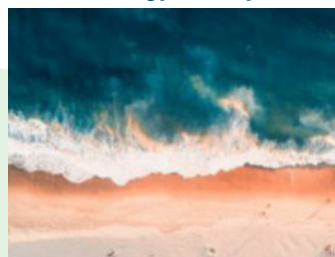
**Risk management and
prevention**



**Biodiversity & Natural
environment**



**Authorities, Groups &
institutions**



Bluetec sea & coastline



IV. SPOTLIGHT ON TRENDS IN FLAGSHIP SECTORS AT THE SHOW

Water

The water cycle: urgent need for adaptation to manage flooding...



For many people, the recent floods in Europe were yet another reminder of the urgency of the climate crisis. The intensity and frequency of these natural disasters remind us of the urgent need to adapt to climate disruption. This adaptation can of course only be managed through public policies that match the scale of the challenges. France's draft National Climate Change Adaptation Plan (PNACC), which is currently open to public consultation, is testament to this. Meanwhile, companies are also coming up with innovative solutions to meet needs on the ground. These include eco-friendly, permeable paving for high traffic areas, an inflatable barrier that can be deployed in minutes to protect buildings and other assets, and solutions for pre-empting and managing rising groundwater levels in vulnerable areas.

... and reuse in the event of drought

In France, the past two summers have massively raised awareness about the uncertainty of water availability. As well as addressing energy use, carbon emissions and biodiversity, the construction and land-use planning sectors now also need to respond to challenges relating to water. This topic is addressed by **Catherine Lagneau**, CEO of the French Geological Survey (BRGM), in the talk **"Reinventing our relationship to resources"** at Pollutec Paris on Tuesday 26 November. Cities such as Nice are reinventing the water cycle with the help of nature. There, a suspended garden project above the covered river would address the issues of rainwater drainage while also providing a means of sustainable reuse to help green the city.

Innovation can also be seen in buildings. In the French department of Tarn, buildings have been fitted with roof tiles that can harvest and store rainwater, taking inspiration from cacti.

It remains to be seen how much the sector will draw on nature and biomimicry-based innovations to help it meet the targets in the Water Plan unveiled by Emmanuel Macron in March 2023, which involves reducing water consumption by 10% by 2030.

Energy

New clean energy technologies – such as renewables, batteries, electrolyzers, fuel cells and carbon capture systems – are major assets in the quest to be both industrially competitive and carbon neutral.

Renewable energy: + 10.8 % in France in 2023

Renewable energy generation in France is currently dominated by wood energy (31%), followed by hydroelectricity (15%), wind turbines and heat pumps (14% each), solar PV, biogas and biofuels (6% each), energy from waste (4%), geothermal, food industry waste and solar thermal energy (just under 1% each) and finally marine energy at barely 0.1%.

Batteries for electric mobility: a real power move

The European Union has launched a European Battery Alliance. In France, four projects are already well underway in “Battery Valley” in the north of the country: ACC, Envision AESC, Verkor and ProLogium. The battery solutions currently on offer are lithium-ion (lightweight and compact), smart, sodium (abundant mineral, easy to use and recycle), LFP (lithium iron phosphate) and solid state (solid electrolyte based on polymers and thin lithium metal).

Reconciling supply and demand for low carbon renewable hydrogen

A booming electrolysis industry

There has been a huge expansion in France in the supply of hydrogen from electrolysis, which is the only process that can produce huge quantities of it without CO₂ emissions. It now needs to find markets and become competitive.

Carbon capture and storage seen as a last resort

Carbon capture and storage (CCS) involves a number of challenges, including how to capture carbon at source, transport and store it, and, where appropriate, its re-use in certain types of product.

CCS currently captures just 0.1% of global emissions, but projects underway have the potential to capture 0.7%.

France has decided to support the establishment of a CCS industry, and launched a call for expressions of interest in April 2024.

Two main challenges

⇒ Reducing dependency on rare or critical metals or minerals

A large part of new energy technologies requires critical or rare materials (metals or minerals). The solution comprises a combination of three complementary approaches: mining/extraction within Europe, reducing demand for critical materials mainly through substitution, and increasing the use of recycled raw materials.

⇒ Adapting the energy infrastructure to new energy sources (networks, storage)

Renewable generation brings with it a new geographical distribution of electricity production sources, along with greater variability of incoming flows, to which heightened demand must now also be added.

Waste

How can we move from a linear to a circular economy?

As part of the Green Deal, the European Union has adopted a 30-point Circular Economy Action Plan.

Like all Member States, France is affected by these regulatory changes. In response, it adopted an Anti-waste and Circular Economy Law (AGEC) in February 2020, with a view to radically reforming its production and consumption patterns. The law includes numerous measures, grouped under five themes: improving production, better informing consumers, phasing out disposable plastic, eliminating waste by encouraging reuse, and tackling planned obsolescence. In conjunction with the Climate and Resilience Law adopted in August 2021, the AGEC law is already having positive impacts, such as mandatory labelling of the environmental characteristics of products, the reparability index and the repair bonus. However, there is still room for improvement in a number of areas, such as waste prevention, a trajectory for ending single-use plastic packaging by 2040, development of the re-use sector, introduction of monitoring indicators for meeting targets in reducing food waste, wider use of eco-design, and waste recovery in certain sectors such as building and construction and professional and catering packaging.

Since the beginning of this year, progress has been made in several areas, such as in the “fossilisation” of non-recyclable waste, sorting and collection of bio-waste, recycling of agricultural bulk bags, bio-recycling of PET and development of extended producer responsibility (ERP) channels. At the same time, we are seeing the development of sectors such as battery recycling and packaging reuse and refill.

In this field which is seeing major changes at every level (technological, regulatory, societal and commercial), there are considerable impacts on skills and jobs.





V. CURRENT CHALLENGES ADDRESSED AT POLLUTEC PARIS

⇒ REGULATION

This is one of the most important factors for investment. There are a host of new environmental regulations in 2024, including the Corporate Sustainability Reporting Directive (CSRD), the Corporate Sustainability Due Diligence Directive (CS3D), the Waste Framework Directive (WFD) and the green taxonomy. Pollutec Paris will provide an opportunity to take stock of these new developments.

⇒ FINANCE

From the investments needed in the ecological transition to support for innovation, finance is central to the transformations underway.

Pollutec Paris will present a range of information to help explain the finance programmes and opportunities available.

⇒ RESOURCES

Air, water, land, minerals, biodiversity: resources are all around us but they are finite. It is our mission to reinvent our relationship to resources, changing our usage and our impact.

⇒ EMPLOYMENT & TRAINING

According to the French General Secretariat for Ecological Planning (SGPE), the ecological transition will affect more than 8 million jobs and could create a net 150,000 jobs by 2030.

Transforming our business models means transforming our professions, developing skills and training workers in all environmental sectors.



VI. HIGHLIGHTS

A. La Tribune – Official programme

La Tribune, which acts as the show's plenary stage and is a key space for sharing ideas will welcome scientists, experts and decision-makers to discuss solutions for the environment, industry and regions. With international-level presentations by leading players from across Europe, discussions at La Tribune will tie in with the four main themes of the event.

Tuesday 26 November

Morning: Regulation

10:00 – 10:45: Five years of rolling out the Green Deal – from a European to a national scale, what are the biggest achievements and what's next? *conversation*

- ⇒ Paloma Aba Garrote - Director of the European Climate, Infrastructure and Environment Executive Agency (CINEA)
- ⇒ Sylvain Wasserman - President of the French Agency for Ecological Transition (ADEME)
- ⇒ Moderator: Alexandre Kouchner, Journalist, political analyst and editor-in-chief of L'ADN-Le Shift

11:00 – 11:45: Regulation at the heart of transforming models – *panel discussion*

- ⇒ Brune Poirson - Chief Sustainability Officer, Accor, former Secretary of State
- ⇒ Bénédicte Heindrichs - General Director, SPW ARNE
- ⇒ Pascal Demurger - Managing Director, MAIF, Co-Chair of the *Mouvement Impact France*
- ⇒ Moderator: Nathalie Croisé – Journalist, Green Univers

11:45 – 12:45: Biodiversity: no business on a dead planet – *panel discussion*

- ⇒ Patrizia Gatti Gregori - Chief Environment, Decarbonation & CSR Officer, Bouygues Construction
- ⇒ Lina Dechamp - Sustainability Manager, Michelin
- ⇒ Maud Lelièvre - General Delegate, Eco-Maires, and President of the French Committee of the IUCN
- ⇒ Michael van Cutsem - CEO and co-founder, Beeodiversity
- ⇒ Moderator: Sylvie Gillet, Head of Development and Head of Biodiversity & Economy Division, ORÉE

Afternoon: Resources

14:00 – 15:00: Reinventing our relationship to resources - *conversation*

- ⇒ Catherine Lagneau - CEO, BRGM
- ⇒ Philippe Bihouix - Managing Director, AREPGroup
- ⇒ Moderator: Alexandre Kouchner, Journalist, political analyst and editor-in-chief of L'ADN-Le Shift

15:00 – 16:00: Implementing a Circular Economy at last! How can we actually move forward? - *conversation*

- ⇒ Elin Bergman - Co-founder, Nordic Circular Hotspot and Chief Impact Officer, CRADLENET
- ⇒ Isabelle Kocher de Leyritz - Chairman & CEO, Blunomy
- ⇒ Moderator: Natacha Girard – Programme Manager, Pollutec Paris & Pollutec

16:15 – 17:15: Planning for a real transition and a balanced energy-mix: how do we make do with what we have? – *panel discussion*

- Introduction Keynote: Pascal Charriau, CEO, Enerdata
- Laurent Bataille - President, Schneider Electric France
- Matthieu Auzanneau - Director, The Shift Project
- Roxane Benedetti - Director, Even Conseil
- Moderator: Nathalie Croisé – Journalist, Green Univers

Wednesday 27 November

Morning: Finance

11:00 – 10:45: Transforming and decarbonising transport – *panel discussion*

- Muriel Signouret - CSR Director, SNCF Group
- Marc Hamy - Special Advisor to the CSR and Communications Director, Airbus
- Guillaume Le Grand - CEO, TOWT
- Moderator: Émilie Esparon, Head of Impact, Vivatech

10:50 – 12:00: Changing the role of finance for systemic and long-term impact – *panel discussion*

- Marie Ekeland - Founder and CEO, 2050
- Marta Sjögren - CCo-founder and co-CEO, PAEBBL
- Pia Erkinheimo - Board Member, LUT UNIVERSITY, Climate Investor, FIBAN
- Mathieu Garnero - Head of Economy and Finance, ADEME
- Moderator: Gianmarco Panone, Investment Manager, EIT InnoEnergy

12:00-12:45: On the climate Front – *Keynote*

- Heidi Sevestre - Glaciologist, Arctic Monitoring and Assessment Programme (AMAP)

Afternoon: Employment & Training

14:00 – 15:15: Pollutec Innovation Challenge – *Pitch*

Jury members:

- Pierre-Yves Burlot - Director of Sustainable Development, Séché Environnement
- Charlotte Migne - Vice-President for Sustainable Development, Suez Group
- Jean-Guillaume Peladan - Head of Environmental Strategy, Sycomore Asset Management
- Marie Bonniol - Marketing and Communication Director, EIT InnoEnergy France
- Eric Tardieu - Managing Director, International Office for Water (OIEau)
- Isabelle Spiegel - Directrice Développement Durable, Vinci
- Master of Ceremony: Alexandre Kouchner - Journalist, political analyst, editor-in-chief, l'ADN-Le Shift

15:30 – 16:15: European sovereignty through re-industrialisation – *employment matters!* - *panel discussion*

- Pierre-Emmanuel Martin - CEO, CARBON
- Julien Einaudi - Group Managing Director, Ortec Group
- Antoine Garibal - Director of Strategy and Development, Siemens France
- Moderator: David Ascher – Publication Director, Actu Environnement

16:30 – 16:45: Pollutec Innovation Challenge Ceremony

16:45 – 17:15: Developing our territorial awareness - *Keynote*

- Maxime Blondeau, Author, Speaker and Entrepreneur

B. MAJOR PLAYERS IN ECOLOGICAL ACTION



Pascal Demurger
Managing Director, MAIF,
and Co-Chair of the *Mouvement
Impact France**

A former student of the French National School of Administration (ENA), Pascal Demurger left the budget department of the Ministry of the Economy and Finance to join MAIF in 2002, taking over management of the group in 2009. Elected president of the Groupement des Entreprises Mutuelles d'Assurance (GEMA) in 2014, he is also working to build the Fédération Française de l'Assurance. As a responsible leader, he believes that business must play its part in addressing the current ecological and social challenges. He introduced a new business model which remains in place: MAIF became a mission-driven company in 2020 and has recently taken high-profile action by refunding car insurance premiums during the pandemic and by creating an ecological dividend. In January 2022, he published a report in partnership with the Jean Jaurès Foundation, in which he outlined 12 proposals for regulations to encourage every company to commit to the ecological and social transition. Building on these ideas, he became involved with the *Mouvement Impact France*, of which he became co-chair in May 2023.



Brune Poirson
Chief Sustainability Officer,
Accor, former Secretary of
State

Having always been committed to sustainable development, Brune has dual experience working in the private and public sectors. Within the French government, she was elected to the French National Assembly for the department of Vaucluse in 2017 and was subsequently appointed Secretary of State for the Ecological Transition where, she championed the anti-waste law, which among other things addressed plastic pollution. The first French person to be elected Vice President of the United Nations Environment Assembly, she is also a member of the Board of Trustees of Fondation de la Mer. Brune joined Accor in May 2021 as Chief Sustainability Officer and member of the Executive Committee. With the tasks of defining, driving and monitoring the commitments, strategy and roll-out of the Group's action plans in relation to sustainable development, Brune is also responsible for the Accor Heartist Solidarity endowment fund and for the ALL Heartist Fund.



*The *Mouvement Impact France* is an employers' organisation whose aim is to realign the economic interests of companies with the common interest in order to build a robust, fair economy that respects the planet's limits.



Dr. Heidi Sevestre
Glaciologist

Dr. Heidi Sevestre is a glaciologist and a member of The Explorers Club. She received the Shackleton Medal for the Protection of the Polar Regions in 2022 and the Prix du Rayonnement Français, for the environment category, in 2023. She teaches glaciology to students at the University Centre in Svalbard, in the Arctic region. Heidi regularly leads scientific expeditions to polar regions and high mountains. Through her work, she aims to make scientific facts more accessible and to inspire people to take action against the climate crisis.



Laurent Bataille
President, Schneider
Electric France

Laurent Bataille is President of Schneider Electric France and a member of the Executive Committee of Schneider Electric. Laurent joined Schneider in 2004, working in the Corporate Strategy and Acquisitions department. He held various leadership roles in the CST Industry Division from 2006 to 2011, and then led the solar business of Schneider Electric from 2011 to 2014. In 2014, he became head of the EcoBuilding Division, before being appointed as Director of Digital Energy in January 2019. Before joining Schneider Electric, Laurent was a consultant for McKinsey & Company. Laurent has also been President of Gimelec since May 2022. He holds an MBA from INSEAD and a Master of Science in Applied Mathematics from Ecole Polytechnique (France).



Marie Ekeland
Founder and CEO, 2050

Marie Ekeland has an ability to bridge different worlds and cultures and has had an outstanding career in the French Tech sector. Aged just 30, she was working for the venture capital firm Elaia Partners when she discovered the digital advertising company Criteo and went on to advise it until 2016, three years after it was floated on the stock market. In the same spirit, she co-founded France Digitale to give voice to a sector that was still in its early stages of development. In 2015, Marie became the first woman in Europe to launch a €150 million investment fund: Daphni, with a value proposal that was already very different from the traditional market. Her current portfolio reflects this bold and unusual vision. In 2017, while head of the French Digital Council, Marie realised the urgency of moving forward on fundamental issues such as sustainability, biodiversity and diversity. Her response was to lay the foundations for a new adventure, focused on major global challenges.





Julien Einaudi
Deputy CEO, Ortec Group

An engineer from Arts & Métiers Paris-Tech and holder of a Specialized Master's degree from HEC Paris Entrepreneurs, Julien Einaudi began his career in 2007 by founding the start-up PeopleDoc with three fellow students. He joined the Ortec Group in 2010 as Head of Oil and Mining Projects at its subsidiary Friedlander in Africa. He then participated in major shutdowns of refineries, petrochemical sites and nuclear power plants in France.

In 2013, he was appointed Director of the Environment Department, then in 2017 Director of the Global Services Division, whose expertise is to support the Group's customers in the delegated management of their facilities, their maintenance and waste treatment.

Julien Einaudi has been Deputy Managing Director of the Ortec Group since 2023.



**Isabelle Korcher
de Leyritz**
Chairman & CEO, Blunomy

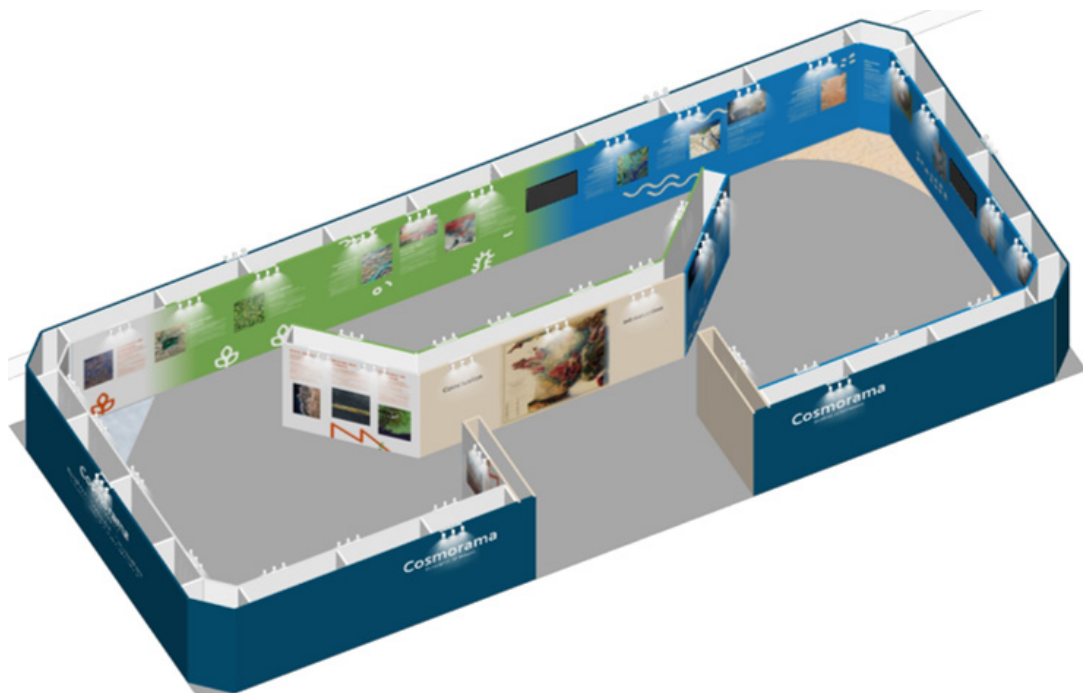
Isabelle Korcher de Leyritz is co-founder of Blunomy, a company she has chaired since 2022. She spent 18 years at Engie, first as business manager, then CFO, then COO and finally CEO of Engie between 2016 and 2020. Engie (formerly GDF-Suez) is one of the world's largest energy production and services groups, with sales of €60 billion, employing 160,000 people in 60 countries. Isabelle is widely recognized for having succeeded in turning the company around, promoting its transformation into a leader in the energy transition. During her tenure, Engie combined green energy transition with profitable growth. Isabelle began her career as a senior civil servant. She held various positions in the Ministry of Finance, before becoming a member of the Prime Minister's office, in charge of industrial affairs. Isabelle Korcher de Leyritz has an extensive Board experience gained at AXA, Suez, Engie, Arkema and Investor. She also holds several non-for-profit board positions. Isabelle Korcher de Leyritz is a graduate from Ecole Normale Supérieure (Ulm), she holds a PhD (Agréation) of Physics and is a graduate from the Ecole des Mines de Paris.



C. DOWN TO EARTH, THE EXPO (NEW)



An immersive zone covering more than 200 m² at the entrance to the show, Down to Earth, the exhibition has been designed in partnership with the French cosmographer, teacher and speaker Maxime Blondeau. The exhibition will provide essential keys for understanding the environmental challenges before exploring the show and the solutions on display. At Down to Earth, the exhibition, visitors will learn about the major environmental topics grouped into three different realms – the biosphere, the geosphere and the technosphere – and at local, regional and global level. Maxime Blondeau, a professor of cosmography at Sciences Po Paris and Mines ParisTech, presents an anthropological perspective on technologies and their implications (or their transformative potential for society). Firmly convinced that our technological choices are also political choices, Maxime founded Alma Mater in 2022 to help companies, management boards and local authorities to explore the concepts of technology and territorial responsibility. The cosmographer has delivered more than 60 talks, designed a training programme for the French Prime Minister's office and co-created the first eco trade union for transforming the world of work through the ecological transition. He has recently written and published his first book, *Géoconscience* – available for purchase at the show.



D. LEADERS' BREAKFAST (NEW) — WEDNESDAY, NOVEMBER 27 AT 8:30 A.M.

New meeting format for decision-makers in the environment, energy and climate sectors, Pollutec Paris is organizing a Leaders' Breakfast, Wednesday, November 27 from 8:30 a.m. to 10 a.m.

This event will be moderated by Alexandre Kouchner, journalist and political analyst.

The theme chosen for this "Leaders' Breakfast" is Artificial Intelligence. To talk about it:



Christian Clot

Renowned explorer and researcher on human adaptation capacities. He will explain to us how the use of artificial intelligence is changing our relationships and our ways of doing things.



Cédric Villani

Mathematician, politician, trusted expert and author of the report 'For a meaningful artificial intelligence: towards a French and European strategy'.

E. POLLUTEC INNOVATION CHALLENGE – WEDNESDAY, NOVEMBER 27 AT 2 P.M.

To complement the Pollutec Innovation Awards, Pollutec is launching a new awards ceremony for its inaugural Paris show: the **Pollutec Innovation Challenge**. This presentation, run in partnership with the French SATT* network, aims to showcase **10 promising and innovative projects currently incubated or supported by labs at universities, research centres or technology transfer organisations**. As a pioneer of environmental innovation, Pollutec showcases project promoters that are revolutionising industry and reinventing opportunities for tomorrow.

The 10 shortlisted candidates will have a dedicated area next to the Talent Hub to exhibit and present their projects. At La Tribune on Wednesday 27 November, they will pitch their innovations in front of a panel of leading companies and experts from the sector, including Pierre-Yves Burlot, Director of Sustainable Development at Sèche Environnement; Charlotte Migne, Vice-President of Sustainable Development at Suez Group; Jean-Guillaume Péladan, Head of Environmental Strategy at Sycomore Asset Management; Marie Bonniol, Marketing and Communication Director at EIT InnoEnergy France, Eric Tardieu, Managing Director at International Office for Water (OIEau) and Isabelle Spiegel, Sustainable Development Director at Vinci.

The winner will receive a start-up stand at Pollutec 2025 in Lyon, a unique business opportunity for emerging projects.

* Technology Transfer Acceleration Companies. Committed to economic dynamism through scientific innovations from public research, SATTs provide companies with de-risked, high-potential technological solutions to gain competitiveness.

1- BeadMet

The decontamination of effluent contaminated by metals is governed by a directive and demanding 'drinking water' standards, which make it difficult to cover the entire spectrum of metals and require post-treatment for chemical treatments. Added to this is the high cost of the facilities, with little economic return if the metals are not recycled. The BeadMet project is based on a process for developing a depollution tool that captures and precipitates heavy metals from wastewater. The tool is based on recyclable beads made of PVA/alginate (Poly Vinyl Alcohol and a biopolymer derived from algae). The project is being led by Claire Sergeant, a researcher at the Laboratoire de physique des deux infinis Bordeaux (L2Pi / CNRS / Université de Bordeaux). The technology was pre-matured by the CNRS and in September 2024, SATT Aquitaine invested 177,400 euros to validate the scale-up of bead manufacturing, improve reaction kinetics and carry out tests on real effluents.

2- Eneville

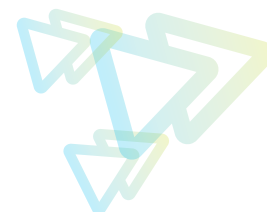
The property sector suffers from poor data literacy, making effective diagnostics impossible for large heritage sites across France. Effective use of property data is key to optimising resources and investments. Launched in October 2023, the Eneville start-up uses open data to model every building in France and assess the energy performance of building stock using just the addresses. It offers two types of services: data provider (data from the French National Institute of Statistics and Economic Studies (INSEE), IGN and ministries, etc.) and decarbonisation strategy (identifying levers and modelling renovation actions and their financial/environmental impacts). The aim is to optimise decarbonisation in the property sector, using digital twins to support decision-making. Eneville was founded by Alexandre Nguyen, an engineer with a PhD in energy and processes, and winner at the i-PhD 2022 innovation competition, and Philippe Beduneau, a property sector professional and consultant in innovation. In 2024, Eneville was a finalist at Cleantech Open France, PropTech Innov Challenge and the Challenge Start-ups Secteur d'Avenir (Future Category) by the CNAM Incubator, and has joined the Smart City platform run by Impulse Partners.

3- FOMCAP

Atmospheric CO₂ concentration has increased by over 40% since the start of the industrial era, and accelerated in the last decade. Besides mitigation solutions (limiting emissions), there are two methods for capturing CO₂: direct air capture (DAC) and post-combustion capture. DAC solutions are currently available but they are expensive and small-scale. Post-combustion capture using liquid amines is a technique going back more than 50 years. However, its disadvantages include high energy consumption, toxicity concerns and the possibility of degradation. The FOMCAP solution uses Metal-Organic Frameworks (MOFs). These crystalline materials have a surface area of 1000 m²/g and extremely fine pores (millions of times smaller than a hair). Combining stability in hot and humid conditions with controlled porosity, these MOFs are suitable for use in a range of sectors, including CO₂ capture. Initial tests have shown them to be effective for post-combustion CO₂ capture, particularly in coal or gas-fired power stations and cement plants, while tests are underway to determine their suitability for direct air capture. The project is headed by Nizami Israfilov within the Institute of Chemistry and Processes for Energy, Environment and Health (ICPEES) and the Laboratory of Chemistry of Complex Matter (CMC) at the French National Centre for Scientific Research (CNRS)/University of Strasbourg with Jean-Marc Planeix, Vice Chancellor of the University of Strasbourg and Benoît Louis, Research Director at the CNRS. It won the Satt Conectus "Mature your PhD" challenge in 2021, as well as the i-PhD 2022 innovation competition. The start-up should be launched by January 2025.

4- Ilion Water Technologies

Water desalination is particularly promising (it could potentially supply 30% of the global population) but it is hampered by the high cost and significant environmental impact of reverse osmosis. With this in mind, the team at Ilion Water Technologies developed a new generation desalination system that uses just a few volts of power, as opposed to mechanical high pressures of up to 60 bar. Using nanofluidic and biomimetic membranes, Viro (Voltage Induced Reverse Osmosis) technology offers a straightforward and economical solution for purifying water through the membrane of any commercial desalination filters. This patented technology is the product of fundamental research by Lydéric Bocquet, Lucie Ries and Zachario Pilo at the Physics Laboratory of the École Normale Supérieure higher education institute (LPENS). Lydéric Bocquet is a pioneer in nanofluidics and in 2024 received the Innovation Medal from the French National Centre for Scientific Research (CNRS). In September of this year, the Ilion start-up was a winner at the i-Lab innovation competition run by BPIFrance as part of the France 2030 initiative.



5- Methancat

France is aiming for renewable gas to account for 10% of its total gas consumption by 2030. However, for biomethane to be more competitive, production costs must come down by 30%, which would require improving yields (working on the quality of inputs), optimising facilities and streamlining biogas purification processes. This technology must eliminate the very energy-intensive process of separating the constituents of biogas. Until now, membrane separation has been needed to separate the CO₂ from CH₄ before methanation by catalytic hydrogenation. The Methancat catalytic process allows biomethane to be produced by direct hydrogenation of the CO₂ in the raw biogas, with no separation stage, so preventing loss of CO₂ and improving yield. The project is being run by the Vaalbio team (Valorisation of alkanes and biomass) under the UCCS (Unit for Catalysis and Solid-State Chemistry at the University of Lille) and the Realcat high-throughput catalysis platform. This will significantly speed up the time it takes to acquire experimental data and, therefore, develop the catalysts.

6- Mirega

Climate change impacts are fuelling the urgent need to reduce greenhouse gases, particularly methane, due to its high global warming potential. However, current solutions for measuring emissions are bulky and unsuitable for mobile use. Tools that are more compact, sensitive and robust are therefore critical to accurately quantifying – and better reducing – emissions. Founded in 2023, Mirega has developed the first miniaturised gas analyser, 100 times more compact than current solutions on the market, while offering high sensitivity when measuring low gas concentrations. Using optical micro-cavities, the technology replaces a bulky key component with a matchstick-sized element offering comparable detection capability. Compact, robust and portable, this solution is particularly well-suited to quantifying low gas concentrations and detecting leaks to help quantify and reduce greenhouse gases. The four founding members of the Mirega team have a complementary skill set: Vincent Hardy, entrepreneur, Pierre Mahion, technical lead, alongside Romain Long and Jakob Reichel, the researchers behind the microcavities innovation at LKB, the Kastler Brossel Laboratory at the École Normale Supérieure higher education institute in Paris. The project has been supported by SATT Lutech (a nine-month maturation programme to develop a prototype).

7- OptHySource

When it comes to electric mobility, batteries are very much the weak link in the chain: they are expensive, bulky, have limited autonomy, etc. The power profiles required by electric vehicles place the battery under a lot of strain and temperature increases caused by power surges accelerate battery ageing. Furthermore, the batteries are not simultaneously power- and energy-efficient, which can lead to suboptimal dimensioning which reduces battery life. The OptHySource project uses Li-ion batteries alongside supercapacitors (SC) to limit the strain on the battery. This hybridisation is beneficial because the battery will have steady power throughout its operation as it shares peak loads with the SCs. Optimal sharing between the battery and the SCs then requires a power converter and an energy management algorithm. This architecture improves the dimensioning, performance and lifespan of the battery and, ultimately, enhances the Total Cost of Ownership (TCO). The project is headed by Théophile Paul, a PhD student at the Icube Laboratory in INSA (National Institute of Applied Sciences) Strasbourg, alongside Tedjani Mesbahi. Théophile Paul was a winner at the i-PhD 2022 innovation competition. The maturation project is funded by SATT Conectus (≈300k: market research, demonstrator concept) with a view to launching a start-up in early 2025.

8- Terdepol

Many industrial sites – often on the outskirts of cities, land or brownfield sites – are polluted with hydrocarbons. Current legislation – reinforced recently by the ZAN (Zero Net Land Take) initiative – requires these areas to be decontaminated so they can be recovered for alternative use. However, existing solutions struggle to decontaminate these sites quickly, at reasonable cost, in an environmentally-friendly way, and without transporting the pollution elsewhere. The Terdepol project focuses on developing and dimensioning an industrial process comprising the leaching of hydrocarbon-polluted soils directly on site, following their excavation. Leaching uses an original, reusable surfactant that offers unparalleled performance in terms of hydrocarbon separation from the soil, without chemical reaction and without contaminating the surrounding environment.



Requiring few or no operators, once this automatic process has been applied, the hydrocarbons are recovered and the cleaned soil is returned directly to its source. The team developing the Terdepol project comprises two civil engineering and industrial decontamination specialists, Yves Greinke and Olivier Kobloth; two university lecturers in mechanical engineering and materials science at the Icube Laboratory (French National Centre for Scientific Research (CNRS) / University of Strasbourg): Yves Rémond (Distinguished Professor at the Strasbourg School of Chemistry) and Daniel George (Professor at the Télécom Physique Strasbourg engineering school); and Philippe Ackerer, CNRS Research Director specialising in fluids, geochemistry and pollution of hydrosystems in Strasbourg, who also works at the ITES (Strasbourg Institute of Land and Environment) Laboratory (CNRS / University of Strasbourg / ENGEEES (National School for Water and Environmental Engineering)).

9- Terraneon

As we look to effectively tackle global warming and preserve biodiversity, there are currently no tools providing systemic evaluation of potential solutions and taking into account all the essential dimensions. The TerraNeon project has enabled the development of a tool to simulate the actual systemic impact of a decision or measure. Using a new form of collaborative AI – multi-agent simulation – this software solution assesses the impacts of human activities on the environment, economy and society. The multi-agent simulator allows various solutions to be tested, comparing their environmental impact, their cost and their social acceptability, based on scientific indicators. The comprehensive systemic approach assesses the impact on individuals, society, the economy, climate and biodiversity. Currently, a macroscopic tool is modelling all economic activities in France to scale, along with their impacts on the climate and biodiversity. An initial demonstrator has been produced to assess the energy production mix in France, with a view to finding the optimum balance between nuclear and renewable energies. The team includes two scientists, Jean-Daniel Kant and Cédric Herpson from the LIP6 Computer Science Research Laboratory (French National Centre for Scientific Research (CNRS) / Sorbonne University), and two PhD students (Mael Franceschetti and Tristan Bersoux). They work alongside industry experts and public institutions and have already achieved significant, internationally-recognised results in the field of simulating human activities.

10- Voltify

Electronic devices are becoming increasingly compact. However, the energy density of existing micro-batteries and micro-capacitors on the market is too limited to allow them to operate at maximum capacity. At submillimetre scale, even the smallest battery often accounts for over 50% of a device's volume and compromises both its miniaturisation and autonomy. Founded in 2023, the new venture Voltify has developed compact energy storage technology enabling these components to achieve unprecedented geometric density. This technology is fully patented by the French National Centre for Scientific Research (CNRS) and is based on assembling selected materials to address safety and environmental issues (rechargeable, solid-state) on a 3D silicon structure (3D microstructured substrate). With this, energy densities of between 15–250 times their commercial equivalents can be obtained, with manufacturing processes enabling large-scale manufacturing. Several applications are possible in the fields of health (particularly implants) and the environment (miniature sensors for surveillance and monitoring). The five members of the founding team are researchers Maxime Hallot (CEO), Kévin Robert (CTO), their thesis supervisor Christophe Lethien at IEMN: (Institute of Electronics, Microelectronics and Nanotechnology, University of Lille), Pascal Roussel (UCCS: Unit for Catalysis and Solid-State Chemistry at the University of Lille) and Cedric Chazel (LRCS: Laboratory of Reactivity and Chemistry of Solids at the University of Picardy).

Please note: Voltify is the new name for the Hileores project (Highly integrated energy storage miniaturised devices on enhanced substrates) which has won several awards: i-PhD 2022, French Tech Rise 2023 and i-Lab 2024.



F. TALENT HUB, AN AREA DEDICATED TO JOBS AND TRAINING

Employment and Training is one of the four major themes highlighted at Pollutec Paris this year. This is because ecological and industrial transformation will require the right skills to meet growing demand.

In 2022, 18% of recruitment plans in France related to jobs in the green economy, a total of 539,000 positions to be filled*. The transition to a sustainable economy will mean a shift in professions and the development of new skills, with employee training as key to this.

The Talent Hub has been co-created with Pollutec's partner Actu-Environnement / Emploi-Environnement. It will be divided into four areas:

- The Green Jobs stand
- A "job dating" space
- An area dedicated to training
- Presentation area

Pollutec Paris will also address the crucial issue of the green reindustrialisation of Europe. This theme has been explored in collaboration with expert partners – such as Emploi-Environnement, the national network PEXE and the Strategic Committee for the New Energy Systems industry – who have helped to develop the programme.

Here are some examples of talks about the challenges relating to green jobs and training, led by expert speakers:

Tuesday 26 November

10:00 - 10:30a.m.: **How are companies involved in the ecological transition recruiting? What are their sectors and needs?**

- Florence Jasmin – General Delegate of PEXE
- Sophie Gentils - Assistant General Delegate of PEXE
- Carole Sommer - Organisation Consultant and external HR director

12:15 - 1:20p.m.: **The water sector: Developing jobs and skills**

- Mathilde Silvert - Head of Projects, ASTEE
- Johanna Morcillo - Environmental Inspector for Water Police, DDT 95
- Sophie Dovillez - Works Technician, Drainage and sanitation, SIARP

Wednesday 27 November

10:00 - 10:30a.m.: **Boosting employment and skills through the circular economy**

- Nathalie Boyer - General Delegate, OREE
- Michel Meunier - Director and Entrepreneur, JANUS

11:20 - 12:10p.m.: **Ecological transition and public works: How can we train current and future employees to meet these challenges?**

- Edith Cartier - Head of Training, FNTP
- Fabrice Poupon - Inspector and head of the CCCA-BTP mission
- Marie Eginard - Project manager tp.demain

* Source: Figures from the French Ministries for Territories, Ecological Transition and Housing

VII. OUR PARTNERS

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VIII. PRACTICAL INFORMATION

A. MAP



B. Dates and location:

26-27 November, 2024, 9:00a.m.-6:00p.m.

Paris Expo – Porte de Versailles – Hall 1
1 Place de la Porte de Versailles
75015 Paris

C. Access:

Metro:

Ligne 12 : stop Porte de Versailles, sortie 2
Ligne 8 : stop Balard

Tramway:

Line T3a: stop Porte de Versailles
Line T2: stop Avenue Ernest Renan

Bus:

Ligne 39 ou 80

Vélib (bike rental):

- Station Vélib' n° 15061 - 12 Square Desnouettes
- Station Vélib' n° 15049 - 2 Rue Ernest Renan
- Station Vélib' n° 15048 - Place Amédée-Gordini

Car:

From highways A1, A4, A6, A10, A15 :

- Follow signs for Paris
- Take the périphérique Ouest (West)
- Exit at "Porte de Versailles"

From highways A3, A13, A14 :

- Follow signs for Paris
- Take the périphérique Sud (South)
- Exit at "Porte de Versailles".

Car parks:

Parking 1 : 2 rue d'Oradour-sur-Glane, 75015 Paris
Parking 6 : access by Place des Insurgés de Varsovie, 75015 Paris
VIP access by Avenue de la Porte de la Plaine, 75015 Paris
Parking 7 : Rue Marcel Yol, Vanve, 92170 Vanves

About Pollutec Paris

France's and Europe's leading trade show for environmental solutions for industry, cities and regions, historically organized in Lyon by RX France, is now offering a new biennial event for the major environmental and climate sectors in Paris, Porte de Versailles.

Complementary to its big brother in Lyon, with a more compact two-day format, it reflects all the environmental sectors and, in many cases, anticipates some of their developments.

About RX

RX is a global leader in events and exhibitions, leveraging industry expertise, data, and technology to build businesses for individuals, communities, and organisations. With a presence in 25 countries across 42 industry sectors, RX hosts approximately 350 events annually. RX is committed to creating an inclusive work environment for all our people. RX empowers businesses to thrive by leveraging data-driven insights and digital solutions. RX is part of RELX, a global provider of information-based analytics and decision tools for professional and business customers. For more information, visit www.rxglobal.com.

RX France creates high level, world-class and market leader meeting places, covering 15 industry sectors, including MIPIM, MAPIC, Batimat, Pollutec, EquipHotel, SITL, IFTM, Big Data & AI Paris, MIPCOM, Paris Photo, Maison&Objet* . . . and many more. RX France's events take place in France, Hong Kong, Italy and Mexico. For more information, visit www.rxglobal.fr

*Organised by Safi, a subsidiary of RX France and Ateliers d'Art de France

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