

# ACTIVITY REPORT

2023



# THE VEOLIA INSTITUTE

The Veolia Institute is a platform promoting analysis and discussion, a bridge between the academic and economic worlds and civil society. It has been contributing to thinking on the **major issues facing our planet** and to the Veolia Group's forward-looking vision since 2001.

The Veolia Institute tackles issues at the crossroads of **society and the environment**, including the climate emergency, urban resilience, the circular economy, and innovations for ecological transformation.

## EDITORIALS

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- **Dinah Louda**, President of the Veolia Institute, and **Nicolas Renard**, Executive Director of the Veolia Institute
- **Pierre-Marc Johnson**, Chair of the Foresight Committee

## THE VEOLIA INSTITUTE

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- A partnership-based and multidisciplinary approach
- Governance
- Recognized legitimacy
- Work freely accessible to all

## 2023

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- Innovation for ecological transformation
- Insights
- The Veolia Institute Talks: Franck Aggeri and Philippe Chalmin
- The Veolia Institute Scientific Talks: Yves Lévi
- Partnership: Sustainable Cities - EkoOpština Competition (Serbia)

## OUTLOOK FOR 2024

23

- Sufficiency
- Environmental health
- Etc.

“**Looking to the future confidently rather than pessimistically.**”

The past four years have been marked by crises including the coronavirus pandemic, the return of inflation, the war in Ukraine and upheaval in energy markets. This list proves, if proof were needed, that despite efforts to predict and prevent them, we are facing an ever-growing array of crises. The 21st century has seen the maximum length of time political and economic actors have without a major crisis shrinks significantly, to the extent that periods of calm have become the exception.

And while some crises cannot be predicted, others can. Water is one such crisis. Half the world's population faces a water-stressed future. In many countries that future is already the present. This is why our Foresight Committee decided on water as the topic for its October 2023 meeting. There was another reason behind the choice of theme. We hear a lot about energy transition, but a lot less about the water transition that is also in progress. Yet a water transition is no less crucial to meeting humanity's ever-growing needs. Just like energy, the water of tomorrow will increasingly

be “alternative” water produced from non-conventional resources such as seawater or reused wastewater rather than water from rivers and aquifers.

One of the most challenging aspects in effective management of water, and nature as a whole, is that both belong to worlds characterized by the slowness of their systems. Timelines for changes in these worlds are utterly divorced from electoral, financial and social imperatives. We count in quarters, months and days whereas nature counts in years, decades and centuries. This means that protecting nature requires acting steadily and consistently. These are virtues the modern world finds very difficult to put into practice, at a time when states, cities and industries face an endless stream of new challenges. Once everything becomes a priority, nothing is a priority – not the environment in any case.

However, countless innovations have changed the face of the environmental services sector in recent years, including ■ ■ ■



**DINAH LOUDA**  
President of the Veolia Institute

■ ■ ■ renewable energies, recovery of rare-earth elements from waste, tackling new pollutants, and recycling wastewater. Who, for instance, could have imagined that so many water-related innovations were possible for something seemingly so simple, so “old”? These innovations invite us to look to the future confidently rather than pessimistically.

The truth is that there are no foregone conclusions in the face of resource scarcity and pollution, providing that the realities on the ground are taken into account and the political will exists. The significance of water, energy and waste has heightened in recent times. Research over the past few years has delivered a major leap forward in terms of knowledge and solutions in these



**NICOLAS RENARD**  
Executive Director of the Veolia Institute

domains, as shown in the latest issue of the Veolia Institute's FACTS Review on the theme of Innovation for Ecological Transformation. The issue was conceived, as are our other publications, to provide readers with perspectives, comparisons and examples so they can reflect on the future of the environment, innovation, cities, industries and health. And so they can move beyond reflection and take effective action too.

The environmental services sector is thus experiencing a period of intensive innovation as it adapts to today's fast-changing world. Plato's observation of two and a half millennia ago remains true today: “necessity is the mother of invention”.<sup>1</sup> ■

1. Platon, *The Republic*.



# A year of global challenges and resilience

The year 2023 was marked by multiple global crises and challenges that highlighted the fragility of our societies in the face of environmental, geopolitical and societal issues. From armed conflict and devastating natural disasters to climate upheaval and rising political instability, the year was a stark reminder of the urgent need to act to build a more resilient and sustainable future.

However, one of the biggest challenges of 2023 was climate change. With record temperatures and extreme weather phenomena such as destructive wildfires and intensified hurricanes, the urgency to act to protect our planet has never been more pressing.

Despite these trials and tribulations, a ray of hope shone through at COP28, where a historic agreement was reached, paving the way for a gradual phase-out of fossil fuels.

This significant step forward testifies to the growing awareness of governments and civil society of the imperative need to combat climate change.

Against this tumultuous backdrop, the Veolia Institute continued its work of thought and foresight on major environmental and societal issues. Its work has focused on crucial themes such as water scarcity, innovation for ecological transformation, the commitment of young people in the face of climate challenges, new forms of radicalism, the impact of pollutants on health, and the use of nudges to influence behavior.

Faced with a world undergoing profound change, the Veolia Institute's prospective role is more relevant than ever. It must enlighten decision-makers, raise awareness among citizens and propose bold avenues of thought to meet the challenges of our ■ ■ ■



**PIERRE-MARC JOHNSON**  
Chair of the Veolia Institute's Foresight Committee

■ ■ ■ time. With this in mind, the Veolia Institute is looking ahead to new horizons for reflection in 2024, with a particular focus on the issues of environmental health, sufficiency, artificial intelligence and the desirability of ongoing transitions.

It is through in-depth work, drawing on a wide range of expertise, that we will be able to meet today's challenges and build a more resilient, sustainable future for generations to come. ■



# THE VEOLIA INSTITUTE





# A platform

The Veolia Institute has been conducting future-facing work on issues at the crossroads of society and the environment since 2001. Its mission is to offer a range of perspectives to help shed light on the future. Acting as a bridge between academia, civil society and the corporate world, the Veolia Institute plays an important role in encouraging public debate and identifying analyses designed to improve understanding of emerging issues.

## for environmental and societal foresight

### A PARTNERSHIP-BASED AND MULTIDISCIPLINARY APPROACH

The Veolia Institute promotes permanent dialogue with scientific and intellectual circles through **its panel discussions**, its journal ***The Veolia Institute Review - Facts Reports***, and its **forward-looking working groups**. The Veolia Institute is a dynamic platform that collates and disseminates the experiences and expertise of various players (researchers, academic experts, public authorities and international bodies) to offer a variety of perspectives, particularly on the issues it tackles:

- Access to essential services
- Biodiversity
- Climate change
- Governance and societal debate
- Resources and the circular economy
- Health and the environment
- Cities and urban services

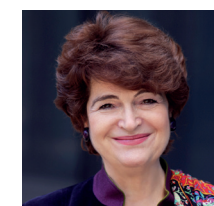
### THE GOVERNANCE

The Veolia Institute is based on three pillars:

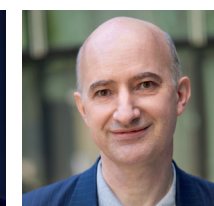
- the operational team, which runs the Veolia Institute's day-to-day operations;
- the Board of Directors, which sets overall policy, leads and oversees management of the Veolia Institute;
- the Foresight Committee, which advises the Veolia Institute and guides its development.

### • The themam

The Veolia Institute's operational team suggests areas for study, establishes the broad themes and identifies priority topics and expert partners. It implements the action programs, coordinates the network of contributors, and disseminates the results of the Veolia Institute's work. This collaborative effort is regularly discussed with the Foresight Committee and approved by the Board of Directors.



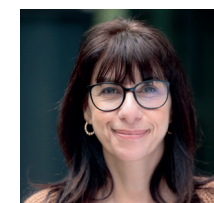
Dinah Louda  
President



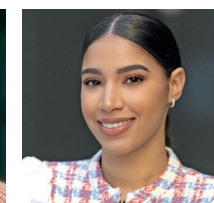
Nicolas Renard  
Executive Director



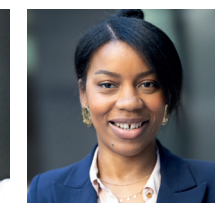
Katiline Burgorgue  
Head of Programs



Laurence Aureli  
Head of Communications



Lamia Meziane  
Events and Communications  
trainee



Raphaëlla Etienne  
Executive Assistant

### • The Board of Directors

The Board of Directors embodies the Veolia Institute's positioning and the bridges it builds between the private sector, scientific circles and civil society. The 12 board members — including representatives from Veolia, members of the Foresight Committee and leading outside experts — ensure balanced governance of the Veolia Institute.

#### Member of the Foresight Committee

- **Pierre-Marc Johnson**, international lawyer, former First Minister of Quebec, Chair of the Veolia Institute's Foresight Committee

#### Recognized outside experts

- **Paul-Louis Girardot**, Vice Chair of the Veolia Institute
- **Julia Marton-Lefèvre**, expert in sustainable development and the environment, former Director General of the International Union for Conservation of Nature (IUCN)
- **Jean-Pierre Tardieu**, Honorary Chair of the Veolia Institute
- **Sébastien Treyer**, Executive Director of the Institute for Sustainable Development and International Relations (IDDRI)

#### Representatives from Veolia

- **Estelle Brachlianoff**, Chief Executive Officer
- **Antoine Frérot**, Chairman
- **Olivier Grunberg**, Executive Vice-President and General Secretary, Veolia Water
- **Philippe Guitard**, Senior Executive Vice President, Central & Eastern Europe
- **Claude Laruelle**, Chief Financial Officer, Veolia, Treasurer of the Veolia Institute
- **Helman le Pas de Sécheval**, General Counsel
- **Christophe Maquet**, Senior Executive Vice President, Asia & Pacific



# THE VEOLIA INSTITUTE

- **The Foresight Committee**

The **Foresight Committee** plays a key role in guiding the work and development of the Veolia Institute thanks to the international reputation and expertise of its members. The Committee has met regularly since the Veolia Institute was established in 2001 to expand the Veolia Institute’s networks and guide its forward-looking mission. Its current members are:



Front row, from left to right: Harvey Fineberg, Dinah Louda, Pierre-Marc Johnson, Mamphela Ramphele, Philippe Kourilsky.  
Back row, from left to right: Lamia Meziane, Katialine Burgogue, Jean-Pierre Tardieu, Nicolas Renard, Laurence Aureli.

Its members are:

**HARVEY FINEBERG**  
President of the Gordon and Betty Moore Foundation  
Former President of the United States Institute of Medicine

**PIERRE-MARC JOHNSON**  
General counsel at the Lavery law firm, Montréal  
Former First Minister of Quebec  
Chair of the Veolia Institute’s Foresight Committee

**PHILIPPE KOURILSKY**  
Honorary Director General of the Pasteur Institute  
Biologist  
Professor Emeritus at the Collège de France

**AMY LUERS**  
Global Lead for Sustainability Science at Microsoft  
Founder of Sustainability in the Digital Age

**MAMPHELA RAMPHELE**  
Former Managing Director of the World Bank  
Former Vice-Chancellor of the University of Cape Town

**AMARTYA SEN\***  
Economist, winner of the 1998 Nobel Prize in Economics  
Holder of the Thomas Lamont Chair and Professor of Economy and Philosophy at Harvard University

The Foresight Committee’s meetings are an opportunity for the Veolia Institute to endorse ongoing projects, explore new forward-looking topics, and develop its areas of focus thanks to perspectives offered by leading experts in their fields. In October 2023, the Foresight Committee met in Paris to discuss **threats and possible solutions relating to water scarcity**.

\* Until June 2023

## RECOGNIZED LEGITIMACY

For over 20 years, thanks to a unique positioning built on Veolia’s experience and the rigorous, science-based support of the Foresight Committee, the Veolia Institute has established itself as a useful and legitimate international platform for exploring global issues.

In December 2015, the COP 21 Paris Climate Conference granted the Veolia Institute accredited NGO observer status under the terms of the United Nations Framework Convention on Climate Change.

This status recognizes the Veolia Institute’s legitimacy as a valued contributor to understanding climate issues.

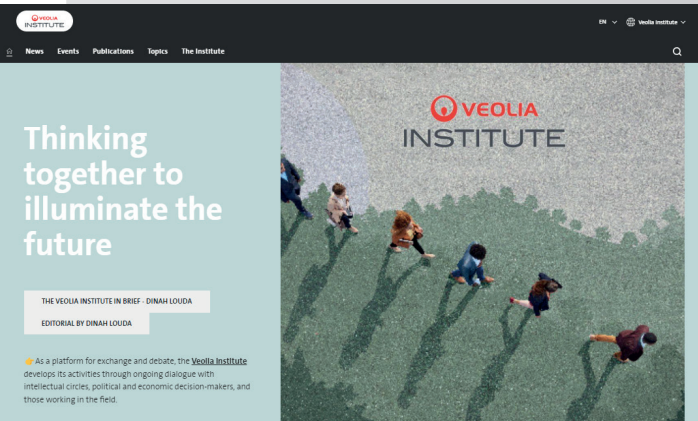
The Veolia Institute’s status allows it to actively participate at COP summits alongside other parties (governments, negotiators, etc.), act as a source of proposals within civil society networks, and contribute to discussions in the run-up to negotiations.

Prior to receiving this accreditation, the Veolia Institute was already: a member of the Civil Society network of the United Nations Department of Economic and Social Affairs; recognized as a research organization by the European Commission under its 7th Framework Programme for Research.

## WORK FREELY ACCESSIBLE TO ALL

In 2023, the Veolia Institute stepped up its efforts to disseminate and communicate about its work as widely as possible:

- **Veolia Institute publications** are available in free access on the Veolia Institute website and on OpenEdition, the humanities and social sciences digital resources portal;
- **Veolia Institute conferences** can be viewed on video on the Veolia Institute’s website and YouTube channel ;
- **Newsletters and social media** help to foster a dynamic relationship between the Veolia Institute and its external network as well as with the wider Veolia Group. ■





2023





# Innovation

## for ecological transformation

Innovation is indispensable to progress in ecological transformation. Making progress also requires promoting «right techs» and taking account of criteria that include positive impact, affordability and the implementation speed of innovative solutions. And it is important to analyze the entire lifecycle of solutions, encourage creative dissent, and create ecosystems conducive to innovation.

### AN ISSUE OF THE VEOLIA INSTITUTE REVIEW

In November 2023 the Veolia Institute published an edition of its review looking at innovation for ecological transformation. Contributions came from the world of academia (MINES Paris-PSL, Jawaharlal Nehru University, Singapore Management University, Transition Campus), multilateral bodies (UNDP, OECD), civil society (Paris 2024 Olympics and Paralympics Organizing Committee, Fédération Envie, Inner Development Goals, Imagine H2O, Net Zero Cities, etc.), and business (Veolia, GIST Impact, Circulate Capital, Seedlings, Biomimicry 3.8, etc.).

The publication explores key notions including responsible innovation, frugal innovation, and the circular economy, highlighting their crucial roles in transitioning to a more sustainable future. It also looks at more unusual topics such as nature’s value to businesses, imitating natural systems to improve buildings and built-up areas, and the state’s key role in innovations in environmental services. In addition, this issue stresses the overarching importance of education to prepare our societies for the environmental shocks to come, and the absolute necessity of taking bold steps if the world is to meet the target for zero net emissions by 2050.



The review can be read online: it is freely accessible on the [Veolia Institute website](#).

### PANEL DISCUSSION « INNOVATION FOR ECOLOGICAL TRANSFORMATION »

On December 4, 2023, following the release of this issue of its review, the Veolia Institute organized a panel discussion on the same theme, open to all, at Veolia’s head office in Aubervilliers.

In a world where innovation is crucial, revolutionary solutions for tackling environmental challenges must be encouraged. However, it is important to select innovations that genuinely contribute to ecological transformation by reimagining our behaviors and our economy. This requires creativity, suitable ecosystems, and committed leaders. Ecological transformation demands new ideas, innovative technologies, and real dedication.

Introduced by Nicolas Renard and facilitated by Dinah Louda, the panel comprised:

**Catherine Ricou**, Head of Innovation at Veolia, who explained Veolia’s role, how the Group innovates and with what resources. She stressed the importance of innovating to accelerate ecological transition by reimagining traditional economic models, and talked about the need for social, technological and resource-management innovations.

She also underlined the key role corporates such as Veolia play in these experiments while collaborating with agile, innovative startups.

**Teodora Ene**, Open Innovation Lead at BPI France, who explained how the institution she works for is engaged in financing ecological transition by embedding environmental criteria into its risk-management analyses and adopting an approach based on climate risk management.

BPI France also provides funds to support businesses, mostly startups and SMEs, to transition to more sustainable and inclusive models.

**Pilar Acosta**, Professor and Researcher at École Polytechnique, who outlined innovations in teaching methods adopted by École Polytechnique, insisting on the change of paradigm, mindset, behavior and skills needed to make ecological transition a reality. ■



Dinah Louda



Catherine Ricou



Teodora Ene



Pilar Acosta



[Watch the recording of the conference online, on the Institut Veolia website.](#)



# Insights,

## foresight briefing papers

The Veolia Institute launched its Insights foresight tool in 2021. These briefing papers allow us to track topics of interest and disseminate a future-facing vision to readers within the Veolia Group. They provide an overview of current issues that relate to ecological transformation, combining an academic approach with real-world examples.

After demonstrating the importance of Veolia’s multi-faceted performance approach and looking at the rise of the concept of « a just transition » in 2021, in 2022 the Veolia Institute used Insights to explore the notions of sufficiency and degrowth. In 2023, it published Insights on young people and ecological transition, new forms of radicalism, and innovative methods for financing transformation, as well as examining behavioral changes in an Insight focusing on behavioral sciences and nudges.

### YOUNG PEOPLE AND ECOLOGICAL TRANSITION

This paper studies younger generations’ attitudes to environmental challenges and ecological transition, primarily in OECD countries.

While the environment is undeniably seen as an urgent issue and a topic of ever growing public concern worldwide, irrespective of geographical and cultural specificities, it is nonetheless frequently associated in people’s imagination and discourses with the concerns and aspirations of younger generations.

### NEW FORMS OF RADICALISM

Media coverage of current affairs often shows that new, at times virulent, radicalisms are everywhere, particularly in matters surrounding the environment owing to the prevailing ecological emergency. This paper analyzes the causes and manifestations of these new radicalisms, particularly in OECD countries, attempting as far as possible to distinguish between structural causes and the distorting effects of media coverage, as well as identifying challenges more specific to Veolia.

### INNOVATIVE FINANCING METHODS, ECOLOGICAL TRANSFORMATION AND SOCIAL IMPACT

This paper examines various initiatives and advances in sustainable finance, a field that aims to encourage environmentally respectful and socially responsible investments as well as make finance greener at the European level (EU taxonomy and green bonds). However, such initiatives attract debate and criticism. The paper also considers prospects for improvements designed to boost the credibility and effectiveness of green finance.

### BEHAVIORAL SCIENCES AND NUDGES

Recent years have seen growing interest in behavior change and nudge theories from policymakers, businesses, and the wider public. Whereas businesses may address these issues from a commercial perspective, in ecological transition it is also important to promote forms of behavior that are the most environmentally friendly. Nonetheless, the growing interest in behavioral change is accompanied by criticism challenging the worth and efficiency of these techniques.

This two-part paper presents the concepts and issues surrounding behavioral change, then examines how such techniques are put into practice and obstacles to change. ■





# The Veolia Institute

## Talks

The Veolia Institute Talks are events specially designed for managers from Veolia, offering them a unique opportunity to explore current environmental, societal and geopolitical changes through discussions with leading experts. The talks welcomed two leading experts in 2023: Franck Aggeri and Philippe Chalmin.

### MARCH 2023 > FRANCK AGGERI

#### « Innovation, but for what purpose? »

Franck Aggeri is Professor of management at Mines Paris-PSL, specializing in the circular economy and issues surrounding ecological transition and responsible innovation. He is also co-director of the Mines Urbaines chair on the circular economy and a regular columnist for Alternatives Economiques magazine.

His latest book, *L'Innovation, mais pour quoi faire ? (Innovation, but for what purpose?)* was published by Éditions du Seuil and is a critique of the omnipresent innovation culture that dominates political and economic thinking. How can we innovate differently and contribute to a more sustainable society?



### JUNE 2023 > PHILIPPE CHALMIN

#### CyclOpe 2023 report: Horsemen of the Apocalypse

Philippe Chalmin, Chair of the Observatory on Agricultural and Food Prices and Margins, presented the CyclOpe report that offers a detailed overview of prices, availability and pressures on raw materials. A highly informative presentation provided the audience with a better understanding of current

dynamics in raw materials markets, underlining the importance of carefully monitoring price fluctuations and taking account of geopolitical, environmental and economic factors that influence availability and price.

# The Veolia Institute

## Scientific Talks

Links between the environment and human health are a major public health challenge and an issue of growing concern to the public and local authorities. This concerns the Veolia Group in particular, as its operations directly impact human health and the quality of the environment.

Although the influence of the environment on human health has long been recognized, it has still not been defined in any detail. However, scientific knowledge in this crucial domain is evolving rapidly.

Determined to improve understanding of relationships between the environment and human health, and to assist operational colleagues improve their practices in the fields of water, energy and waste, the Veolia Institute and Veolia's Department of Scientific and Technological Expertise launched the Veolia Institute Scientific Talks in 2023. The talks are given by internationally respected scientists who share their expertise on the theme of health and the environment.



### NOVEMBER 2023 > YVES LEVI

The first talk, in November 2023, was given by Yves Lévi, Emeritus Professor of Environmental Health at Paris Saclay University, member of the National Academy of Medicine, the National Academy of Pharmacy and the Academy of Technologies. During his talk, Professor Lévi provided clear and precise insights into the issues and challenges posed by the impact of chemical pollutants on human health and the environment. Building on the success of the first talk and the quality of the discussions afterwards, further events are planned for 2024, looking in particular at the issue of antimicrobial resistance.



# Sustainable Cities EkoOpština Competition (Serbia)

In 2023, the Veolia Institute renewed its partnership with the Institut Français in Serbia for the Sustainable Cities - EkoOpština competition.

The competition aims to promote sustainable urban development practices by encouraging local authorities to share their solutions for making cities more environmentally respectful.

Thanks to support from the Veolia Institute, the Institut Français in Serbia was able to fund two seminars on sustainable management of water and waste. The Veolia Institute is also a member of the jury that awards prizes to Serbian schools for their actions raising awareness about sustainable development.

Sustainable cities have been a major focus of the Veolia Institute's work from the outset, part of its mission to share best practices and raise awareness of social and environmental issues.



Katialine Burgorgue and Dinah Louda

The Veolia Institute's support for this program reflects its ongoing commitment to sustainable cities and strengthens its relationships with Veolia's international teams and stakeholders.

The success of the two previous editions convinced the Veolia Institute to continue its partnership with the Institut Français in Serbia for the 2024 Sustainable Cities - EkoOpština competition. ■



# Sufficiency, Environmental health

The Veolia Institute plans to publish two issues of its FACTS Review in 2024, each devoted to key issues for our planet's future. The first issue will focus on the concept of sufficiency. Conceptually, it will question its definition and what distinguishes it from other paradigms. Geographically, it will examine its influence internationally. Operationally, it will analyze models inspired by this approach. Finally, it will offer a critical insight of the moral assumptions behind sufficiency and its relevance in the face of evolving consumer behaviors, examining how it interacts with notions of performance and green growth.

The second issue will focus on the impact of climate change on environmental health, looking at direct risks to human health, consequences for vital ecosystems, and the



challenges facing socio-economic organizations if they are to adapt to protect public health.

In addition to FACTS Reviews, new Veolia Institute Talks, Veolia Institute Scientific Talks and Insights are planned, examining a diverse range of crucial topics such as desirability, antimicrobial resistance and artificial intelligence. ■

Veolia Institute • institut.ve@veolia.com. Direction éditoriale : Katialine Burgorgue, Lamia Meziane  
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Thinking together to illuminate the future